



**LEGITIMATE MINING.—PRELIMINARY NOTICE.  
TO THE PUBLIC.**

MR. NICHOLAS ENNOR has for the last ten years in vain attempted to base mining on something like genuine grounds, but has been foiled in his endeavours by parties who earn their living by bringing out mines, indifferent to their intrinsic value, or the observation of economy in carrying them out, their object being to appropriate as much as possible of the subscribed capital to their own use.

The usual way in which they proceed is, after obtaining a sett, they connect themselves with a few engine and material sellers, who take a large interest in the concern, and place themselves on the committees of management; they then state in the public papers about double the amount of money actually spent, against which they allow the shares at a premium; indeed, they state anything that will suit until they have sold the engine and all the ponderous materials, when they begin to dispose of these shares before they come to be paid for. They still continue in office, until it is discovered that the capital is fast diminishing, when they resign their seats, and the mine is left to be conducted by the parties who were so easily duped; they, not knowing anything of mining, and annoyed to find they had been made such easy prey of, throw the sett in despair; this is the reason it so often happens that mines are abandoned before they are fairly begun.

Consequently, I find it very difficult to recommend mines for investment, not from inability to form an opinion as to results, as I believe I am generally acknowledged to do; the difficulty is, if the mine be good, the management is bad, therefore my friends have been constantly teasing me to bring out some under my own direction, and I have at last consented.

I observe metals are again advancing in price; and I know mines, properly selected and fairly and economically carried out, do and will pay enormous dividends.

It is my intention to purchase myself all engines and materials from whoever they can be got at best quality, and at the lowest prices—much of which can be bought second-hand, equally useful and at much less cost.

I also intend that the resident captain, assisted by myself, shall estimate the cost of all work before it is carried out, by which means I hope to economise the expenditure, compared with the present mine cost, full one-third. NICH. ENNOR.

The first mine I have decided on bringing before the public is—

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(LATE OWLACOMBE), ASHBURTON, DEVON.**

Capital £10,000, in 1000 shares of £10 sterling each.

Deposit £5 per share on allotment.

The remainder to be paid in two calls, at such periods as may be hereafter agreed on. The mine to be worked strictly on the "Cost-book System," so as to avoid all liability to individual shareholders. The power to be held liable for all arrears of calls or bills if allowed to stand over more than two months; if not paid within that time, he is to call a general meeting, to forfeit such shares to the company, to be resold at their discretion for the benefit of the shareholders.

DIRECTORS.

CONSULTING AND SUPERINTENDING ENGINEER AND MANAGER—Mr. Nicholas Ennor.

SECRETARY AND PURSER—  
CAPTAIN AT THE MINE—  
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**PROSPECTUS.**

Mr. NICHOLAS ENNOR has much pleasure in recommending to the notice of the public this celebrated old mine, which is known to have produced more tin than any other mine in the county of Devon.

The surface excavations on the ledges of this sett are immense, even exceeding those at Great Wheal Vor, or any other mine known in Cornwall or Devon. There cannot be a question but that thousands of tons of tin have been extracted from this mine, still she may be set down as in her infancy, as the deepest shaft is only about 60 fms.

It would be superfluous to speak of this sett as being situated in a tin district, as it has been generally well known and celebrated for rich tin mines from time immemorial, indeed this mine was found formerly to be so productive that it caused Ashburton to be made a coining town, where the tin was taken to be coined and stamped before it was offered in the market, and it continued to be a coining town until within the last half century, in fact, up to the time the law was altered for this as well as all other coining towns. This is a sufficient proof that a considerable amount of tin was risen in this locality, and these mines ever stood foremost, yielding fortunes for the lucky adventurers.

It is still in the remembrance of many that when the mines were last worked they produced immense quantities of tin, almost sufficient to pay costs under the universal bad management of that period.

When last worked water-wheels were erected on it, but they had not half a supply of water, the result was men were kept on the mine waiting for the return of the season, a system of working which at that date nearly ruined every mine in the country, and half of those in Cornwall. It can now be proved that the workmen did not earn sixpence for each shilling they received; this, and the then expensive mode of working in drawing the stuff to surface, stamping and cleaning the ore with water stamps, &c., is a convincing proof that a mine, which at that time would half pay expenses, would now pay a large profit.

The former party, notwithstanding all the disadvantages under which they laboured, did not despair of the mine, but so sanguine were they of ultimate success, that they went 15 miles to obtain a better supply of water, to enable them to prosecute the bottom of the mine. They commenced this water course in land where they had no grant, under the idea that tin miners could divert any running water; this caused a tedious law suit, in which the company failed, the consequent expenses of which were enormous. This suit having exhausted their cash, and the supply of water not to be had, their only alternative was to raise fresh capital to prosecute the mine by steam power, or abandon it. They made the attempt, and secured all their list of pumps, with new buckets, etc., 150 fathoms of which are now standing in the different shafts of the mine.

The cessation of operations is to be attributed to their desire to raise a capital of £30,000, of which £20,000 was to go into the pockets of the old adventurers for work done, but when their intentions became known they, of course, failed to raise the desired sum on such conditions, and after quarrelling amongst themselves, the mine was neglected, and ultimately abandoned, with a large quantity of materials on it.

Having obtained a new grant of this sett, it is with great satisfaction that I state the lords of the soil, as well as mine adventurers, now know the value of the steam-engine, and are aware of its capabilities, consequently the lords have granted at the very moderate dues of 1-30th for tin, and 1-13th for copper, if worked by steam power. This mine can be quickly laid open, and every man so placed as to earn a shilling before he receives a farthing.

Judging from the unanimous reports, the result of this mine must ultimately be profit to the adventurers, as can be seen by reference to a former account, where it is shown that by an outlay of £5000 exclusively for mining purposes, they returned £14,000 worth of tin and copper, in less than three years, commencing in 1848, and very rich in quality, as it fetched the best price of any in the country; and further, that during the five ensuing years, till to the amount of £37,000 was extracted; both these lots of ore were risen at an outlay of about £30,000, and sold at an average price of £10 per ton, whereas it would now bring £30 per ton, or for round numbers say double what it then fetched, or about £100,000; therefore, had the mine been fairly managed, it would then have paid a handsome profit; under the present price of tin it would have paid above £50,000.

On an inspection of the plane, it will be seen that this sett was worked as three distinct mines. First—The Union or Eastern Mine, on a tin and copper ledge; Second—North Great Beam ledge, and South Great Beam ledge, worked for tin. From South Beam ledge, a branch is gone off nearly south to Union ledge, where the 14 is extended on until they meet with the Union ledge, this branch produced good copper, and was worked away on tribute; as I have before stated, in working on this branch Union ledge was intersected, but so much water issued from it that they were afraid to drive, as it would let out such a quantity of water as to prevent the engine keeping Hobson's shaft clear; very excellent ore was taken from this ledge where cut; indeed, I have now a stone in my possession worth 55 per cent. for copper, and 40 oz. of silver to the ton.

The third mine was opened on Union ledge, at Brother's shaft, about 50 fms. west of the end where it is intersected by the branch; on this part of the sett it is evident a water-wheel was fixed, and tradition says they raised hundreds of tons of copper; but the parties who worked the adjoining sett, choked their adit, which emptied itself into theirs, thus this mine was filled with water, and, in consequence, they were obliged to abandon this rich copper ledge, leaving a lift of pumps with a brass working in the shaft—under these circumstances, this portion is a good speculation in fact, such as is not often met with.

There are also three or four very promising ledges, with old workings on them, still farther south, which can be worked in conjunction with this mine, or separately; an adit had already been extended 90 fms. towards these ledges, but they have not as yet been cut.

In working these mines, it is not prospecting as it were in search of ore, as it is well known by hundreds to be there; witness the quantity of ore that has been returned since the last company ceased working—a miner, an invalid, with four assistants, have risen £5000 worth of tin, and they are now returning nearly a ton of tin per month from the refuse.

These mines can be laid open by means of two steam-engines, one for pumping, and the other for drawing the stuff to surface and crushing the ore. The ground is very easy for excavating shafts, levels, and pitches; pitches that cost in the last working 5s. in £1 can now be worked for 2s. 6d. In fact, it is apparently a most extraordinary mine, as every one speaks well of it, stating it to be a good mine, ruined when last worked by needless expenditure and universal bad management.

It will be seen on perusing the report of Capt. Hosking (an old practical tinner of fifteen years standing in the mine, and one who drove scores of fathoms of the levels on tribute, by which he did well), that in the back and bottom of the lower level at Hobson's shaft, there is a ledge now standing worth £50 per fm. Now if it be only half as good as reported, shares will be at a premium before the water is out, which can be accomplished in a few months, the mine being shallow.

If the lords of the soil would permit, I should have stamps erected, and from the adit send tin to graze sufficient to pay a dividend (as they are now doing at Great Polberro), before commencing to open the mine, when in lieu of giving her away, as I now propose in free shares as it were, I should be enabled to sell the mine at a very advanced price.

CAPT. WILLIAM HOSKING'S REPORT.

Ashburton, Aug. 10, 1857.—I beg to hand you a few observations on the Owlacome, or ASHBURTON UNITED MINES SETT: and from my long experience in these mines, having worked in them from 12 to 15 years, I believe I have it in my power to give considerable information, both as regards the nature of the country and the character of the ledges. The extent of the sett is very great, being one mile wide, and one mile on the rear of the ledges, of which there are eight already known, five of them tin, one a champion copper ledge, and the others producing both copper and tin. The ledges run about 22° south of east and north of west; the stratification is a beautiful soft killas, and near the granite junction. The surface workings are of immense extent, and probably exceeded many centuries since. Within the last 20 years I may safely say £100,000 worth of tin and copper has been raised and returned from four ledges only, and I have myself, as a tributary, broken some hundreds of tons of tin from them. Previous to my knowledge of these mines, vast quantities of both tin and copper had been raised and sold, to what extent it would be impossible for me to say: here you will naturally say, how did the mines become abandoned? It arose from want of sufficient machinery to keep the levels clear of water, the only power being that of water, which invariably fails for five or six months in the year; unfortunately also, the company under which I worked claimed the right of taking water and conveying the same without consent or purchase, the consequence was a law suit, entailing a loss of from £15,000 to £30,000 to the adventurers, who failed in establishing their claims. There is one common adit running through these mines. The first shaft

intersected by it is the Union shaft, at 12 fms. from surface; the next going west is Hobson's shaft, intersected at 14 fms.; the third is James' shaft, intersected at 16 fms.; the fourth, Parry's shaft, at 18 fms.; the fifth, Murray's shaft, at about 23 fms. from surface. I have so far given the depth of the different shafts to the adit. I will now inform you of the depth of these shafts below the adit; the Union shaft is 47 fms., here large quantities of tin were raised; Hobson's shaft is 35 fms., here immense quantities of tin have been raised of a superior quality, and many tons of copper of highest produce, and there is now in the bottom level of this shaft a splendid coarse of tin for a great many fathoms in length, worth from £50 to £50 per fm.; James' shaft is 35 fms. under the adit, where large quantities of tin have been raised; Parry's shaft is 45 fms. below the adit, here great returns of tin have been made, and good profitable ground still remains; Murray's shaft is 33 fms., here quantities of tin have also been raised.

The usual way in which they proceed is, after obtaining a sett, they connect themselves with a few engine and material sellers, who take a large interest in the concern, and place themselves on the committees of management; they then state in the public papers about double the amount of money actually spent, against which they allow the shares at a premium; indeed, they state anything that will suit until they have sold the engine and all the ponderous materials, when they begin to dispose of these shares before they come to be paid for. They still continue in office, until it is discovered that the capital is fast diminishing, when they resign their seats, and the mine is left to be conducted by the parties who were so easily duped; they, not knowing anything of mining, and annoyed to find they had been made such easy prey of, throw the sett in despair; this is the reason it so often happens that mines are abandoned before they are fairly begun.

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I also intend that the resident captain, assisted by myself, shall estimate the cost of all work before it is carried out, by which means I hope to economise the expenditure, compared with the present mine cost, full one-third. NICH. ENNOR.

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CAPT. WILLIAM HOSKING'S REPORT.

ter this foolish feast, amid much fun and badinage as a matter of course if any have sense enough to refuse the foolhardy attempt, the party scramble down the narrow winding staircase, where again considerable merriment is created by groping their way in the dark passage. The chapel and dungeon being duly examined, the terrace visited for the sake of the magnificent view, and having the various mines pointed out (upwards of 80 being visible), the party repair to the back of the island, where, in some secluded spot, they spread their picnic meal, and enjoy themselves with jokes, singing, and music; after which they stroll about the delightful spot, *chacun à son goût*, until time warns them of the approaching train, when they hurry to the pier, and after a brief passage per boat to Marazion they re-enter the hospitable of the "Commercial," where, by this time, too, with all the necessary appendages, are provided. Another drain of grog and negus completes their extravagance. They then repair to the railway, and in an hour or so are at the "old people's," where a supper is usually provided, and the glass handed merrily round until 10 or 11 o'clock, at which period the young couple repair to their new abode. The bridesmaids and guests are seen home by their "young men," each with a bit of wedding cake, to dream of their own wedding-day. Thus is spent that of the modern, well-conducted, Cornish miners, whose example we hope and trust will, as it is now, be daily and increasingly copied.

Our picture is now complete; and, though it be but a faint copy of the master we have alluded to, it is only defective in colouring (pardonable in photography). The refined taste is there, as well as the characteristic difference between rough, vulgar boors and the amenities of more educated and polished society.

Now, reader, this mighty change is true; and, as it has arisen solely from the causes described in these papers, it becomes your duty, as far as in you lies, to encourage and promote improvement in the dwellings of the working classes, to excite self-respect by improved domestic comfort and dress, and by keeping the sabbath—that really day of rest in Cornwall—by aid of the church and chapel; so shall you witness not only greater improvements but the gradual extinction of the evils we deplore.

We will now wish our young couple good bye, and all the happiness they wish themselves.

GEORGE HENWOOD.

### Original Correspondence.

#### LEGITIMATE MINING DEFENDED.

Sir.—The conduct of Mr. Fonblanque, as well as your article of Saturday last on the subject, have excited no small stir among commercial circles in the City—the one by its unblushing, shameless effrontery and falsehood, the other by the mild castigation administered. As the champion and defender of one of the insulted interests, it is held to have been your duty to have laid on the lash more freely. Could this personage but have heard the remarks that have been made on his conduct, and of which he is certain to hear more than will probably be pleasant or profitable to him, if he have any modesty left, he would pause ere he again gave utterance to such injurious nonsense. It may have been intended as a smart piece of witicism, but such witicism at the expense of, or even trifling with, such extensive interests, are not only mischievous but indecorous to the dignity of the Bench. It is whispered that an appeal will be made to the Lord Chancellor on the subject, for if such opinions be allowed to be entertained and acted on, the credit of no one ostensibly or privately known to be engaged in such branches of British industry will be safe.

Now, I fearlessly venture to aver that, on proof being adduced, this commission cannot trace 1 per cent. of the cases coming under his judicial notice to arise from mining, and that even in cases said to have their misfortune attributable to this source not 5 per cent. can be proved in reality to be so. Mining is too frequently put forward as the stalking horse for screening reckless extravagance or wild adventure, equally erroneous and injurious to the interests of this truly national source of wealth. How can Mr. Fonblanque possibly ascertain, judge though he be, what are really the merits or demerits of a mining speculation into which any one of the individuals unfortunate enough to come before him may have entered—whether the fault lay in the mine, or in the party holding a larger interest than he could afford? If the latter be a legitimate cause for condemnation, what person can be safe? What business can be called real? How would the learned commissioner prevent over-speculation by injudicious or over-aanguine parties? And if such enter any kind of trade, is the trade therefore to be censured and annihilated?

Let us now see what would be the consequences if Mr. Commissioner Fonblanque's wholesale condemnation were acted on. He would be, as he deserves, deprived of the gold in his pocket, the silver spoon in his mouth, the coals on his hearth, and the rim from his carriage wheels. Without mining he would have something to do to find salt for his porridge. It would be but an act of retributive justice were a deputation of successful miners to wait on the learned gentleman some fine morning, and ere he assumes his robes (whilst he is still a man and not a judge) demand whether he gave utterance to and still held such sentiments, and then express their opinion and their experience. What a pretty spectacle would he afford! Yet he richly deserves it, as a warning and example. Were such steps taken, it would prevent wanton trifling with properties of this nature, that ought not, and deserve not, to be treated with the breath of calumny. I sincerely hope some measures will be adopted to mark publicly the indignation the mining section of the community feel, as a preventive to attacks on other interests by unguarded public functionaries.

#### A MINING ADVENTURER, WHO DOES NOT FEAR.

Sept. 9. MR. FONBLANQUE'S COURT, OR RESPECT HIS OPINIONS.

#### DESULPHURISING ARGENTIFEROUS PYRITES.

Sir.—I am sorry to find my remarks relative to desulphurising of argentiferous pyrites have led Mr. Godefroy to assume that I am desirous of sealing him, or impugning the validity of his patented process. Mr. Godefroy's process is already secured, as far as it is capable of protection, and I have not the slightest desire to interfere therewith; indeed, I should rejoice exceedingly to find that success had attended his efforts, not only on his behalf, but from motives of self-interest, as it is not impossible that I might be benefited thereby. Mr. Godefroy stands or falls by the process or processes which he has specified, and I can neither build him up nor cast him down. In my late remarks I alluded to another person, but, as Mr. Godefroy attacks me, the tables are turned—it is he who takes up the cudgels; and as he says the processes which I have given to the public are so different from his that a crude suggestion and experiments to the attention of your readers.

When the subject of extracting or dissolving sulphur was first brought to my attention, it was undoubtedly in connection with ore that had been operated upon by Mr. Godefroy; and I then stated that I considered this material to be correct, but I doubted if the mode of applying it would conduce to a successful result. This, I confess, I had a perfect right to do; especially as upon obtaining some pyrites which had been operated upon by Mr. Godefroy, I found that the sulphur was neither removed nor neutralised. I admit, as Mr. Godefroy observes, that I am "no chemist," but I thought that a small amount of "common sense" might guide me in this matter. Three facts relative to the modes of dissolving sulphur had long been known to me—so long, that at first I did not recollect whence I had derived them. Common sense, however, dictated that I should see what the school books—the A B C of chemistry—said upon the subject. I happened to have by me Dr. Murray's "Elements of Chemistry," published in 1817 (when I and Mr. Godefroy were boys), and, turning to the word "Sulphur," I found "It combines with the alkalies and alkaline earths, acquiring, from their action, solubility in water." Then, to see what these earths were, I turned to "Lime," and found "It combines with sulphur, rendering it soluble in water." I turned again to "Soda," and I found "It combines with sulphur, and renders it soluble in water." I knew also that sulphur could be dissolved by boiling with oil of turpentine, but I could not find that stated in Dr. Murray's "Elements," therefore I am unprepared to give my authority for that process. All these matters, therefore, appeared to be "settled as the hills," and I considered it was only needful to manipulate properly upon Dr. Murray's principles to arrive at a successful result. "Common sense," therefore, suggested that to get "combination," there must first be "contact"; that I assumed would be obtained by a careful administration of the atoms, not of "lime-water," but of lime, with the sulphur. Then I considered that "combination" was "contact," and a little more—that there must be cohesion, mechanically effected. Therefore I applied pressure, and grinding together of the atoms, to which I thought, in order to soften the sulphur, it might be needful to introduce saline; and then I tried, and advised, a heated vessel in which this operation should be performed. Then came the dissolving. "Common sense" told me, as also did experience (I having sometimes dabbled in bricks and mortar), and in which also an bricklayer's labour could have instructed me, had I been at fault, that lime does not dissolve readily or sufficiently in steam or hot water; therefore, I first introduced cold water, and then increased its temperature, to assist its effects upon the sulphur. The only remaining process was to decant (upon which, I expect, no two opinions can be formed, and to which probably my mining knowledge would be likely to guide me as correctly as would Mr. Godefroy's experience); and upon such being effected, I found that the sulphur was completely brought into solution, and the pyrites freed from that deteriorating element.

I have, therefore, Sir, given you a plain statement of what I consider to be a common sense rendering of Dr. Murray's principle. I do not claim it as an invention of my own. I was about to say, my modesty forbids, but I should rather put it upon the footing, that were I to make this claim this old authority would be quoted, to my "shame and confusion of face."

Mr. Godefroy's process evidently differs from that which I have described, and I do not wish to say one word in reference thereto, but I understand that Mr. Godefroy has never yet constructed the model forms of the "plant and machinery" upon which the peculiarity and the success of his invention depends. His plan, therefore, appears to me to partake of the nature of a theory yet to be verified by practical re-

sults; and thence, of course, the failures which, I understand, have already attended the exhibition of his system.

I hope, therefore, that the foregoing statements will disabuse Mr. Godefroy's mind as to my being his intended assailant. I merely wished to communicate a fact which might be advantageous to some of your readers, and of which neither I nor any other person could fairly make an exclusive market. I have not the slightest intention of interfering with Mr. Godefroy, or of performing the operation for others. I have yet to learn that there is any obligation upon me to withhold the statement of results which I have undoubtedly obtained by using even the same well-known material as Mr. Godefroy, in a different way; or to await the issue of Mr. Godefroy's present manipulation. If I had ears of the class specified, I should subject them to the treatment I have described, under the full conviction that I was not in any degree intruding upon Mr. Godefroy's rights. His process he admits to be different—so do I. Mine is a manipulation of Dr. Murray's principle, to which I refer him.

As to the expense of my plant and machinery, I can assure you they would be very

expensive, but being from shallow levels, they have fetched comparatively low prices. Though some parcels produce above the average, the quantities were such as to warrant our proceeding vigorously to erect machinery for pumping and crushing the ores. This is now completed most effectively and satisfactorily, and to accomplish which it has been necessary to make calls; to some extent, these not being responded to has prevented the secretary and purser from paying the merchants their bills, who, being very pressing for their amounts, as may be supposed, trouble us who have paid our calls in preference to those who have not. We have been unwilling to stop the mine, and disengaged to pay for those who have not the capital to pay for themselves, and who ought never to have taken a share. We have now no alternative but to sell the shares of such parties, which we have done partially; but although we have cut the lode in a level 10 fms. below where we were previously raising ore, still the fact of offering the shares by public auction has terrified our shareholders, and alarmed the public to such a degree, that the property is now at a merely nominal value—say, one-third or fourth the value of the new machinery—all is consternation. Though our debt amounts now to no more than about 450/- or 500/-, and the arrears of calls to 650/-, yet the property is called in bad circumstances. The ore produced this month will more than pay the cost of the mine; but is it fair the merchants should wait until the mine can pay her own way, and then by the surplus? or is it just we should be sacrificed and our property ruined by being held in such hands? I say, no. The great bane of mining is, that parties hold too many shares for their capital generally, and in the hour of trial fail, thus ruining themselves and their associates. This is not the fault of mining, the more of which I see the more thoroughly am I convinced it would in many cases answer splendidly, if conducted by one head, and paid by one ample purse.

If this property fail, as I fear it must, from these circumstances, another party

would purchase the sett and plant for a few hundreds, and by laying out a few more

would lay open levels to work the ore already discovered, and soon be in possession

of a dividend mine. This would cause a swarm of needy adventurers to be dispersed

over the land, ensnaring as swindlers from beginning to end, when they themselves, not the mine, have been the cause of their misfortune; or should I and my friends purchase (as we have a perfect right to do) their shares, we should be branded

as oppressors, and as having brought this crisis about through chicanery, and with a

motive to destroy the small holders of large numbers of shares, which their circum-

stances never warranted holding. I hold interests in some score or two mines, which

in the aggregate pay me good interest, but if not hampered by such drawbacks as I

refer to would be a splendid property. However, I have made up my mind, ere I

again enter a company, to take heed with whom, as well as in what, I adventure.

I thank you for the pains you have been at in exposing mine difficulties, and the explanations afforded parties when in puzzling situations; I, therefore, ask you to publish this, it being sure to meet the eye of some of our adventurers, who will at once recognise the mine, and probably take heart, and be wise enough not madly to throw their shares to the winds. I can tell them this—I am by far the largest shareholder, and am quite satisfied we have a magnificent property; and if they, by their insane folly, sell the mine to suit the cry raised by the necessities of a few needy

holders, I shall buy the mine and work it myself, when they must not, after this

warning, stigmatise me as unprincipled if the mine turn out, in its deeper explora-

tions, as well as upper experience warrants the hope.

J. M.

#### EFFECTIVE INSULATION OF TELEGRAPH WIRE.

Sir.—You have heretofore indulged me with occasional space in your Journal for a brief exposé of the merits of my invention, patented some time since, of an improved compound for the gutta percha manufacture. I then stated that by the adjunct I had in my chemical researches very fortunately hit upon, of the pulverised shell of the cocoanut, gutta percha acquires properties of endurance and indestructibility which give it in the combination a manifest superiority over the pure vegetable substance, or any other compound of it hitherto devised, for all practical uses of the article.

The most important of these purposes, it is clearly obvious, is its applicability for the insulation of electric telegraphic wire. From the palpable failure after only three or four years of service of the coating at present employed, notorious by incessant new and relaying of the lines of wire within and around the metropolis, and now rendered still more so by the acknowledged defects of the cable intended to cross the Atlantic, both in its composition and structure, and to which may be added from sad experience its incapability of secure deposit in the ocean, I am induced once more to ask a corner in your columns, to remind all whom it may concern in this momentous, social, and national affair, that the means exist, and may be instantly available to effect the object which has been just now so ungrappably defeated, and to secure a regular and uninterrupted submarine communication (bearing, of course, accidents from violence, &c.) for many years to come. In spite of the seeming impossibility of such a result, I may proceed to explain that, although the loss of the wire cable is said to have happened chiefly from accidental mismanagement of the paying machine, there would appear to be a reasonable and even great probability that the breakage might not have occurred but for the strain upon the cable from the enormous weight of its outside wire covering, which by consolidation with the previously united gutta percha and linseed oil wire, may have precluded the natural expansion of the latter more flexible and less cumbersome body. The unavoidable nature of the iron wire seems to warrant this supposition, although it is far from certain that the elastic power of the other material, if even unfettered, would have saved the cable.

Because the excessive weight of this cable at the depth suddenly encountered of nearly two miles, or even less, must have overcome the utmost tenacity of copper wire coated with gutta percha would of itself possess.

Had this cause of failure not existed, and had the weight and consequent strain been diminished, as then when in the ratio of circa, 200 lbs. to 1½ ton, or 3860 lbs., the strength of the wire coated with the compound at present used would not, I apprehend, even then, with its greater buoyancy and more gradual descent, have successfully withstood the pressure of stormy seas and sudden deepening, or, as in the present case, of both combined. I do not mean positively to deny that its comparative lightness and natural power of tension, unburdened of the iron cable, might possibly have sustained the severest of the pressure, but from the ingredients of its composition I think this a very doubtful matter.

These observations premised, I am prepared to maintain that any risk of failure would be material, if not wholly, abated by the use of a wire coated with my "improved compound," resting this judgment upon its undeniable and already proved qualities set forth in my prospectus; and in addition to other corroborative evidence to be adduced, I may note that on some comparative experiments being made at the great Wharf-road manufactory of this compound and the gutta percha produced there, from whence all telegraph wire coating has been supplied hitherto, my composition was shown to be capable of enduring a higher temperature and more considerable tension, having stood firm at 145° Fahr., while theirs gave way at 115°; and upon an equal tension of both, applied to prove the measure of elasticity, theirs parted and mine remained entire. Those experiments are upon record, and may be referred to. I fearlessly, therefore, assume that my compound would prove ample strength for all the contingencies of a submarine cable, independently of the protection of an iron shield.

But there is another consideration of vital importance in the case. With the present coating corrosion of the conducting wire takes place, as we have seen, in two or three years, for it cannot yield sufficient carbon to supply the requirements of the wire.

The oily nature of the cocoanut nut adjunct in my compound meets this want, and security is thus afforded against the two main causes of deterioration—a decaying shield, and the absence of chemical action needed as a preservative. It is superfluous to add that corrosion of the wire must be destructive of electric communication.

3, King's Mead Cottages, New North-road, Sept. 9. P. A. GODEFROY.

#### MINING SCHOOLS—MR. UREN.

Sir.—The letter of "Coal Miner," on the subject of Mining Education, in last week's Journal, has attracted considerable attention, and has been the subject of much comment. It has evidently been well considered and carefully written: it embodies fully the views of Mr. Uren (the party more particularly alluded to), who would much prefer returning to his own sphere of action as a mine agent, where his talents might become practically and unobtrusively useful, to any appointment as lecturer or teacher of mathematics. Mr. Uren does not know of the writing, nor does he know the writer, of this letter; but if the latter be correctly informed, Mr. Uren's view in studying so closely as he has done is to fit himself as a purser, fully able to undertake charge of a mine; and that has been his sole object. This situation I trust he will soon obtain, and sincerely hope it has only to be known to be achieved. Thus would a stimulus indeed be offered.

Mr. Uren may be indeed surprised to see this letter; and more so when I state that he is one of a family of 13 children, brought up by an industrious couple in Illogan, their father never having occupation above a common miner, as a sumpman. (Mr. Uren need not blush at this detail.) His elder brother, who has since been second agent and manager of the great Cobre Mine, Cuba, from which he has just returned, the well-merited savings, by his temperate habits and steady conduct, affording him a competency. His brothers (all miners from their cradles) fill responsible underground situations as shaft and sumpmen in the neighbouring mines, in which capacities they are greatly respected. The elder son, to his honour, has placed his parent above the necessity of going underground in his old age, by putting him in a small tenement to cultivate.

These youths received no education but that in their own cottage, by their own industry, the elder teaching the younger branches in the evenings, instead of wandering about in mischief or idleness. They all thus became more or less scholars, and by these exertions alone have placed themselves in the situation of society they at present occupy. Honour be to them, and to those who follow their example. If "Fides" doubted Mr. Henwood's Photography of a model captain, he may by these we see we have model minors too. I write in the hope, not only that the example of the Urens may be extensively followed, but that the object of last week's letter and this may be attained, and that Mr. Uren may be placed in a situation in which his splendid talents and worthy industry may be made available. Such parentage and education need no testimonials for honesty: if so, any number could be forthcoming.

As a matter of public duty, I think, Mr. Editor, you will insert this letter. The example is as excellent as the facts are simple. Let justice be done.

A VOICE FROM REDRUTH.

#### INSPECTION OF COAL MINES.

Sir.—In his report for 1855, Mr. J. J. Atkinson states that "during the year he has visited nearly all the collieries in his district once, and many of them often; and in the cases where he found any part of the Act not complied with, or had been unable to point out sources of danger, the ready compliance with his recommendation for the removal of the same, which had always been given, rendered it unnecessary for him to adopt any further measures. At the same time, in a few cases, as to which the meaning of the Act is somewhat doubtful or indefinite, he had thought it desirable not to insist too much on his own particular view of its intention, and thus had avoided the chance of a formal collision with the owners and agents of collieries; the more particularly, as none of these cases were such as, in his opinion, would have materially, if at all, increased the safety of life, had his own views of the somewhat doubtful meaning of the Act been adopted."

From the majority of the reports, it appears that the colliery owners and agents are willing to carry out any practical suggestion that may be made to them, and I am, therefore, inclined to think that want of practical experience on the part of the inspector, coupled with his desire to serve some legal friend whose talents do not secure him a sufficient amount of patronage to meet his wishes, is the cause of so much pitiably tyrannical and vexatious litigation in the districts where there appear so large an amount of enmity between the inspectors and the colliery owners.

One gentleman boasts that the proportion of deaths per million tons of coal raised in his district is "probably less than that of any one of the 12 mining districts into which the kingdom is now divided" and that his district now contains about one-eighth of the entire number of collieries in Great Britain; but he says nothing of the number of collieries which he has inspected during the period, although, from the rumour about that the majority of his visits are made after an accident, which might have been prevented by strict inspection, has occurred. This, no doubt, arises from the time wasted in prosecuting for trivial offences, usually making from 6 to 10 distinct charges, where one would suffice.

Another district in which great dissatisfaction appears to exist is under the inspection of a gentleman well versed in ratios and percentages, and who has a fair acquaintance with the Belgian mining laws. He inspects an account of the parties he has laid informations against, and the number of indictments against each, in a carefully prepared tabular form, from which it appears that he convicted 14 firms of 35 offences. This gentleman, however, seems very indefatigable, if he does little practical good, and he may, therefore, be passed over.

Without especially criticising the report of the inspector who thinks that his having

convicted on 12 charges out of 13 is a proof of "the justice with which the law has been administered," and who has recovered 33/- 10s. in penalties paid over to the use of Her Majesty, I may suggest that the reports of every inspector should contain the number of inspections made to each colliery, instead of the number of convictions for trifling offences. The importance of carefully attending to this rule is

counteract the operation of legal studies and practice, which sharpen indeed, but, like a grinding-stone, narrow whilst they sharpen."

I trust it will appear that while I admit the essential importance of appointing a really competent officer to discharge the duty of preparing the proposed report, yet the difficulty of finding such a person is not insurmountable.

W. SPENCE.  
Office for Patents, 50, Chancery-lane.

## Original Correspondence.

## NORTH TAVY MINING COMPANY.

A general meeting of adventurers was held at the offices of the company, Warnford-court, Throgmorton-street, on Tuesday.—Mr. T. C. SMITH in the chair.

Mr. Conn (the secretary) read the notice convening the meeting, and the following report:

Sept. 5.—Since the general meeting in June, the clearing of the deep adit has been completed to the end, which is 30 fms. west of the deep shaft. The driving beyond the shaft is on the cross-course, and no lode has been seen to the west of it at this deep point. The operations at this point have been suspended, to give time for the erection of a whim, but not having received orders from the committee I have not proceeded with it. From the reports of those who professed to have known the mine when last worked we were led to expect that some very ground would have been met with at the deeper parts of the mine, but I much regret to find that every part here is very poor. The new whim has been erected on Gill's shaft, and the 20 cleared to a point where we found some good ore in a large lode, but the ventilation was so imperfect that we were obliged to rise up through to the shallow adit, which we did on the south and softer part of the lode; this part produced a little ore, but not to value; I had it assayed, and found the produce 1 per cent., therefore of no commercial value. We have in the past week been taking down the harder part of the lode, which produces some good ore, but is not so good as I had hoped to find it; this lode although not rich is of great strength and promise, and certainly ought to be further prosecuted; and under our present circumstances, I recommend a whim to be sunk on its course in the bottom of the 20, right under the rise. I also would recommend that the 30 be driven west from Gill's shaft towards the point to which the whim would turn; this level is driven only about 3 fms. west of the said shaft, and there are 20 fathoms of ground between the two points, which is, judging from the appearances in the 20, of the most promising character, and which, in my opinion, cannot fail to be productive of good results. The expense of these operations would be, probably, about £200. I am myself a large shareholder, and am willing to go on with my portion of the works proposed. I do not advocate doing more at the deep adit before something further is seen at the shallow point alluded to.—R. WILLIAMS.

A statement of accounts was submitted, from which the subjoined is condensed:—

Balance last audit .....	£ 65 6 1
Mine cost and merchants' bills—May .....	40 19 2
" " June .....	59 16 0
" " July .....	49 19 7
Printing, &c. .....	£ 5 9 6 = £221 10 4
Carriage of ore .....	2 4 11
Calls received .....	185 4 0 = 185 8 11
Balance against adventurers.....	£ 36 1 5

Mr. Conn referred to the former report of Capt. Williams, and by which it would appear at the present time they ought to have had good tribute pitches, and making monthly returns at least from 15 to 20 tons of ore.

Mr. COXES complained that he had not much confidence in Capt. Williams, and wished to know whether there was any method of ascertaining the amount of work done?

Mr. Conn considered the captain a trustworthy man, but they could not tell how many fathoms had been driven.

Mr. COXES said a large sum of money had been spent for the little work done.

The CHAIRMAN was of opinion that the best course to adopt would be to refer the report to the committee, to obtain some further explanation from the captain, as it was considered far from satisfactory to the shareholders.

Mr. Conn said, the captain had stated they had nothing to do but to rise through a course of ore, and send hundreds of tons for sale.

The report and accounts were unanimously adopted, as also a resolution calling upon Capt. Williams to give some further explanation of his report presented at the present meeting. Two of the shareholders had sent in their relinquishment, which it was agreed to accept, upon paying their share of the liabilities up to the present time. A call of £d. per share was made.

Mr. Conn having formally resigned his appointment as secretary, it was accepted, and the question of electing a successor referred to the committee.

A vote of thanks to the Chairman, and to Mr. Conn for the able and energetic manner in which he had fulfilled his duties as secretary, terminated the proceedings.

## DRAKE WALLS MINING COMPANY.

The general meeting of adventurers was held at the offices of the company, Moor-gate-street, yesterday, Mr. W. J. DUNSDROUD in the chair.

Mr. HIRAM WILLIAMS read the notice convening the meeting, and the minutes of the last, which were confirmed.

The CHAIRMAN read the following report:—

Sept. 8.—The 92 fm. levels are extended east and west of Matthew's shaft 25 fms., 1 ft., 3 in. on the course of the branches. The improvements in the 92 west, in the direction of Betley's shaft, still continue, and may be regarded as a favourable change, being the deepest point of our operations. A communication has been effected by a whim from the 80 to the 92 fm. levels; the branches in the 92 have been of a productive character. We have commenced to work in the back of the 92, east of the whim, in moderately productive tin ground. The branches in the 92 east are of a very promising character, at present intersected with tin and copper ore; we have about 15 fms. to drive east to get under the copper ore gone down in the bottom of the 92; the strata being of a favourable character, we hope to make good progress in that direction. The 80 east has been extended since last meeting 14 fms. through productive tin ground; at the present time the ground is not so easy of progress, although the branches are moderately productive. We have three stope working in the back of this level in good tin ground. The branches in the 70 east are not quite so productive, having intersected a small cross-course; the ground being wet and troublesome makes the progress slow. There are two stope working in the back of this level in coarse tin ground. The 76 cross-cut north is being driven by two men and two boys at 57. 10s. per fm., including tunnelling and all costs, and is extended 25 1/2 fms. north towards the great north lode. Should the underlie of the lode continue agreeable to former calculations, there remains about 40 fms. to reach the lode, which will occupy, at the present rate of driving, about 14 months. We have an increase of water in the cross-cut, which gives us reason to expect an intermediate lode or branch not as yet seen to surface. The object of the cross-cut is to more fully develop the north lode further west, and at a much deeper point than the deep adit, and of which we entertain a very high opinion. The branches in the 60 east are producing saving work; we have two stope working in the back of this level in coarse tin ground. There are two stope working in the back of the 50 in somewhat improved tin ground. The stope in the back of the 40 are yielding some good work, and as we have a great height and length of whole ground at this point, should the same continue productive, and of which we entertain no doubt, we have sufficient stope laid open at this level to employ twenty or thirty men for some years. We have recently proved, by cutting south, the main tin branches are yet in that direction, and on which we have commenced operations. The 90, east of Betley's shaft, is extended about 3 1/2 fms.; the branches are assuming a more favourable appearance, and produced occasional good stones of tin, mica and wolfram; but little has been driven in this level during the past six weeks, in consequence of the south or footwall in the old workings giving way to a slide at the 60 west of Betley. We have found it a work of the greatest importance—nearly all our time and attention, day and night, have been devoted thereto—to secure the shaft against the old workings with an unlimited quantity of good red pine, and we are happy to say the same appears to be secure up to the present time, and in a forward state of completion, and we hope to send the kibble to the 60 on or about Saturday next. We are now filling the old workings west of Betley's shaft with slate from surface as fast as possible, which will contain a great quantity of stuff. The deep adit is being driven by two men and two boys in favourable ground, at 32. 5s. per fm., and we are pleased to say a favourable change in the appearance of the lode has taken place, which is from 4 to 5 feet wide, composed of immense quantities of mica, quartz, pebble, pumice, &c., and is all that can be desired, except a course of ore, which, at the shallow depth of 20 fathoms, can scarcely be expected; as we extend west we gain a great height of backs, and shall intersect the Drake Walls cross-courses, which lead to expect the lode will become productive of copper ore. On reviewing our prospects for the past quarter, we are happy to say they are somewhat improved, and we have every reason to believe this mine will continue in a profitable and productive state, with a fair price for the ore, &c. &c. There are 405 persons employed in and on the mine.—T. GASSON, J. ANDREWS.

A statement of accounts was exhibited, from which the subjoined is condensed:—

Balance last audit .....	£2084 19 6
Tin sold .....	5171 5 7
Copper .....	108 15 0
Arsenic .....	90 0 0
Old material .....	14 15 4 = £7469 15 5
Mine cost, April, May, and June .....	£403 5 4
Interest and discount .....	8 18 8
Disbursements .....	24 10 2
Fourth dividend .....	1563 7 6 = 6000 1 8
Balance in favour of adventurers .....	£1469 13 9

The CHAIRMAN said the report and accounts were so clear that it required very few observations from him. The balance would have been much larger had it not been for the fall of tin in May. They had since obtained a good price for the tin, and the serious accident that had happened at the shaft was repaired, so that the mine was now in a better state than ever. He considered they had a very good balance, and the directors recommended that a dividend of 2s. per share should be declared. He would conclude by moving that the report and accounts be received and adopted.

Mr. ROSEWARNE seconded the resolution.

Mr. BRAY said the stores in hand appeared large.

The CHAIRMAN reminded the meeting that it included the July stores, and that every liability was brought up to the present day.

Mr. HOPKINS considered the 203 shares in hand an asset, and that they might have a 2s. 6d. dividend.

The CHAIRMAN replied, that if they divided 2s. 6d. to-day they would divide more than they earned, which he considered a dangerous course to pursue. (Hear.) The question would be brought before them as to the disposal of the shares, and the amount would then come into the next account. By straining the dividends they would decrease the value of their property, but fair ones would increase it.

Mr. HOPKINS sincerely thanked the Chairman for the able manner in which the business had been done.

The report and accounts were then unanimously adopted.

The CHAIRMAN said the next question was the dividend, and in proposing 2s. per share he was glad to remind them that the July cost was paid, and that they had begun the quarter with a profit of 500s.

A dividend of 2s. per share was then unanimously agreed to.

The CHAIRMAN said the next resolution was to authorise the committee to sign an agreement with Messrs. Jacobs and Oxland, of Plymouth, for the disposal of the certain waste from the dressing of the tin, which was the tungstate of soda, that was now lost. Mr. Oxland proposed to erect machinery at his own expense, to make it commercially valuable; and, in return, to supply free the soda the company consumed in dressing, which now cost them about 400s. a year.

Mr. BURNARD said Mr. Oxland had also granted to the company the right of working his patent for dressing the tin, free of any charge.

Mr. HOPKINS considered the arrangement highly beneficial to the company, and the shareholders he was sure would be obliged to the committee for carrying it out.

A formal resolution, authorising the directors to sign the agreement on behalf of the adventurers, was then unanimously carried.

The CHAIRMAN said, the next question was the sale of 203 shares, vested in Mr. Tyrus and himself on behalf of the shareholders, and which he considered had better be disposed of by public auction.

A very long, angry, and personal discussion ensued respecting some other shares, which it was stated had been unfairly obtained and held.

The CHAIRMAN contended that the committee had done all in their power to recover them. He concluded by moving that the 203 shares standing in the names of Messrs. Tyrus and Dunsford should be disposed of by public auction, for the benefit of the shareholders.

Mr. ROSEWARNE seconded the resolution, which was carried unanimously.

The Chairman, Messrs. BETTELEY, BELL, BAILEY, and GILL were re-elected the committee of management, and cordial votes of thanks the Chairman and agents of the mine terminated the proceedings.

## MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

LEGITIMATE MINING.—In our advertising columns will be found a preliminary notice and prospectus of the ASHBURTON UNITED TIN AND COPPER MINES, presented to public notice by the celebrated Mr. NICHOLAS ENNOR, who has for so many years enjoyed the confidence of the mass of mine speculators. We would here observe there are none infallible, but we shall be only expressing the almost universal opinion when we state that so far as a person can judge by indications of the position of the hidden treasures of the earth from a superior knowledge, and by long practical experience, Mr. Ennor has been most successful—seldom, if ever, as we believe, having recommended parties to mine in the wrong direction; therefore, we cannot but state we are highly pleased to find he has at last determined to bring out some mines under his own superintendence. His ability will now fairly brought into play in directing operations, and we have every reason to believe there will be few, if any, of the abuses and shortcomings in the mines under his guidance he has so long and indefatigably endeavoured to obviate in some others, whilst acting in the capacity of an inspector of mines. It will be seen by the prospectus, that the Ashburton United Mine sett is a most promising one, from which immense quantities of tin are extracted by ancient miners, and, from surface appearance, it is certainly the most extensive seat of operation in either Cornwall or Devon.—Indeed, we are only surprised it should have remained so long unworked, yet it will be found, on perusing the prospectus, that most satisfactory reasons are given by Mr. Ennor. It appears, when last worked, the original shareholders, after the unfortunate trial respecting the water-course, betook themselves of a plan to repay with compound interest the expense they had been at in defending the lode suit—namely, by reorganising their affairs, and making a fresh start with a capital of £30,000, £20,000, of which they intended appropriating to their own use; but when this became known they did not succeed, and the mine has since lain dormant; but she must now, under the direction of such an enterprising man as Mr. Ennor is known to be, soon begin to develop herself, and prove to the world the superiority of mining over other investments, when directed by competent persons. We find the mine is to be brought out in a fair and straightforward manner, in 1000 shares (none free), at 10s. per share, 5s. per share to be paid on allotment, with which it is confidently expected sufficient steam power will be erected, the mine got in fork, and a course of tin worth 60s. per fathom, now standing in the bottom of the shaft, laid open. It should also be understood that the whole of the subscribed capital will be legitimately spent in laying open the property. In conclusion, we can only say we wish Mr. Ennor the success he so richly deserves; from him we expect much, and we prognosticate that neither ourselves nor the public will be disappointed.

WHEAL MARGARET continues to look as well as can be desired. The dividends already paid this year amount to 13s. per share—4s. in February, 5s. in May, and 4s. in August; and it is expected that the next, in November, will be 5s. or more, which will make for the year 13s. per share.

EAST PROVIDENCE.—The lode in Mount adit is larger, and opening in size very good. We have cleared up old shaft this week, in which there was said to be a good lode for tin: we found a promising lode, with a shoot of tin about 3 feet high and 2 ft. wide, worth 15s. to 18s. per barrel; it seems to have something of a carbuncle. It would pay very well if we could work it, but the water is so very quick in it that we had very great difficulty in reaching it, and after having closely examined it, and broken a fair sample, were obliged to abandon it, until drained by an engine or adit.

At WHEAL HENRY (Helvellyn, Cumberland), they have lead in the fore-bay of the long level, as well as in the 40 fm. level above. A level is being driven 20 fms. below, to cut the ore gone down for above 40 fms. long in the present level. A sump has been sunk here, and solid silver ore raised. The prospects are good.

CARNEWAS MINE.—I send you herewith the report from Carnewas, received this post, which I cannot but regard as highly satisfactory: I may, therefore, as manager of the mine, ask that you refrain in future from inserting such remarks on the mine as have appeared in your several past journals.—R. TREDDINICK.

Carnewas, Sept. 8.—Since my last visit to these mines, the men have cut into a large capel west of the north and south lode 7 feet, which has a strong and powerful appearance, being highly mineralised; they have also driven on that part of the lode nearest the capel 5 feet, which has greatly improved, being now 2 feet wide, composed of rich-looking spar, with large vugs of mica and lead. In driving in this part a few fathoms, another part of the lode split off, about 8 fms. behind the end, will be intersected, when I look forward for still greater improvements. I also like the appearance of the strata about this point, being much the same as surround the copper lodes, and it is my opinion that we are not far from the junction of these lodes, and which shall be proved as soon as possible.—G. REYNOLDS.

From ANGRACK CONSOLS MINES, a sample of the lead, assayed by Mr. CLAUDE, produced 77 per cent. for lead, and 35 ozs. 15 dwt. silver per oz.

MINING IN DEVON.—On my way from Buckfastleigh to Poundstake and crossing over New Bridge, my attention was aroused to a sound up by the Dart stream, towards Hannaford, where I saw several men, with Capt. W. Williams, rejoicing over the christening of a new mine, called Devon Great Elizabeth. From the indications presented near to surface, and the splendid specimens of copper ore from the lode, coupled with the character of the strata and other circumstances, obvious to practical miners, lead me to the conviction that an extensive deposit of rich copper ore will be laid open at a shallow depth.

RIVER TAMAR COPPER MINING COMPANY.—We are very glad to hear that a very large number of shares have been already taken up, and the deposit of 5s. per share paid. The company was formerly called the South Devon Great Consols, and, although they were compelled to wind-up, the directors and their immediate friends had such great confidence in ultimate success that the working of the property has never been stopped, and is now progressing more vigorously than ever. The whole of the machinery is in the most perfect order, and the necessary buildings of a substantial description. The sett is surrounded by dividend-paying mines—nearly the Devon Great Consols joining on its eastern boundary, at the south-east it nearly joins the Bedford United, its southern boundary the Old Gunnis lake, and the western part the Hington Down Mine. The River Tamar Mine is situated in strata of granite and killas, the former being exactly similar to the granite which yielded such great results at Gunnis Lake, and the latter being in every respect like that which has yielded such unprecedented returns at the Great Devon. I would appear that, as a progressive mine, few possess greater elements of success, and the reports from time to time prove that it has been worked in a legitimate and miner-like manner.

WHEAL JULIAN.—This promising tin mine is situated in the parishes of Plympton St. Mary and Shaugh, in the killas formation, on the border or southern declivity of that part of Dartmoor known as Shaugh Down. It is close by and parallel to Wheal Sidney, which ought to be paying good profits, but is not, for want of little more capital, properly applied. Wheal Julian has a fine lode of tin at from 8 to 12 fms. deep, in which little has been done by the former party for want of pumping power. The property has lately been purchased by Mr. H. Wills, Plymouth, and Capt. Williams, Tavy Consols, who have started in good earnest, and seem determined to prove the property; and are erecting a steam-engine, for pumping, stamping, &c. The district is well worthy a trial, and if Capt. Williams and his friend succeed, it will do much for this comparatively untried, though promising neighbourhood.

TYWARTHNALE.—The smiths and carpenters' shops, count-house, and other necessary buildings, are being repaired, and will be fit for use shortly. Tenders will be invited for the carriage of the 70-in. cylinder engine and boilers, computed to weigh about 100 tons, which it is expected will be delivered on the mine in the course of the ensuing week. As soon as delivered the engine will be put in the house, and the pumping of the water immediately commenced. The management of the mine has been entrusted to Capt. Dale, of St. Stephen's, and under his auspices it is anticipated that in a short period the mines will be able to show what they are capable of doing. When copper was at the standard of 90, the last two months of working it returned about 1400 tons of ore; at the present standard this would leave a large profit to the shareholders, and the future produce is expected to be equally as great.

At NORTH ROSKEAR, the 164 fm. level west continues to improve, being now worth 16s. per fm. Other parts of the mine are looking well.

CATHERINE AND JANE CONSOLS.—The lead lode continues to turn out well. The purser, Mr.

## MEMS. OF MINES AND MINERS.—No. XVI.

Captain ROBERT BILLING (Ashburton) should, properly, be termed a mining pioneer, being one of the few who, stepping out of the beaten path, holds, and puts in practice, the argument that Nature produces the same minerals in the same strata, wherever situated, and that a search for them is sure to be crowned with success; an argument he as well as others have proved to be correct. Captain Billing was born and reared in the cradle of mining, where he worked at Poldice, Great Wheal Busy, and adjacent mines. Educated in such a school, no wonder he became an experienced and successful tributary, dresser, and judge of mineral ground, so beneficial to him in after life. Capt. Billing was one of the miners selected for intelligence and good conduct to proceed to South America, for extracting the precious metals; after serving in this employ, on his return he took an engagement at some small mines. He at length obtained the captaincy of the South Plain Wood Mine, near his present residence. The appearances of this mine were such as to induce the most sanguine hopes; but the company, like many others, would be neither led nor driven by the captain's advice, but would take their own; consequently the mine was abandoned, without giving it anything like a fair trial. Capt. Billing, judging from his long experience, and feeling perfectly persuaded such killas, so situated with regard to granite, trap, lime, and other rocks, traversed as they were by capel and quartz veins, must be metalliferous, and the storehouse of great deposits somewhere, cast about him, and, after a long and diligent search, discovered the vein now worked as the Queen of Dart Mine (deriving its name from being first seen in the river so called). This was followed by the discovery of the King lode, a continuation of the Queen lode, being slightly heaved by a cross-course. The Queen of Dart has returned several hundred tons of copper ore from a shallow level, the 20 being better than the 10, and the lode just out in the bottom of the 30 promises well, so that there are all the elements of a lasting mine; the King having the same appearances, promises to add equally to Capt. Billing's fame and fortune. He then prosecuted his discoveries at Hemerdon Wood, on a sett called the Knight of Dart, and at the same time worked a sett on the Tamar at his sole expense, the whole of these being in virgin ground. Who will not say Capt. Billing is a pioneer and devotee? Arrived, as he now is, into the decline of life, he must have something more than mere personal aggrandisement in view; having no family, we opine Capt. Billing has as much the public weal of mining and a laudable desire of distinction in view as the more sordid desire to obtain riches. Capt. Billing is one of those shrewd, witty, studious men, who need but little schooling to develop their talents, of which no ordinary share has fallen to his lot; being possessed of a fine imagination and liberality of sentiment, always displayed—except in matters of faith in religion, on which point, like many others who are equally liberal on other subjects, he insists on his infallibility. He has long retired from taking the care and charge of mines as agent, devoting the whole of his time, with an energy amounting to devotion, to his more suitable vocation as pioneer, in which we wish him the success he deserves, and of which he has received such ample earnest.

Mr. SAMUEL HIGGS (Penzance), purser of several mines in his neighbourhood, is another striking instance of what perseverance in mining can effect. Mr. Higgs, on his first introduction at Penzance, commenced business as a grocer and merchant on a large scale. After a time he engaged in mining. His business-like habits, kind demeanour, and upright dealings, soon inspired that confidence which induced his selection as purser. Mr. Higgs had, it is remembered, considerable experience in mining as an adventurer, and knew all its ramifications, ere he took the responsibility. Nor must it be supposed Mr. Higgs was at once or uniformly successful. No, no! Mr. Higgs has had his disappointments as well as others—the easy golden path to wealth by mining is trodden but by few. Mr. Higgs owes his success to perseverance as well as to Providence, of which splendid mine he is not only purser, but a large proprietor. Mr. Higgs, also, is a fortunate adventurer in several other rich mines, from which he derives a handsome income. Mr. Higgs is, and always has been, much and deservedly respected. He has had the honour of filling the civic chair of Penzance, in which capacity his urbanity of manner was only surpassed by the ability with which it was graced. In any measures suggested or promoted for the improvement of the town, the people, or the locality, Mr. Higgs has always been found a liberal subscriber, and a zealous advocate; in private life, they who have the honour of his acquaintance, enjoy the society of a sincere friend and upright man.

## DRESSING AND BUDDLING OF ORES.

Mr. C. H. G. Thost, of Tyndrum, N.B., has made several improvements in these important operations, the particulars of which he has forwarded to us, with most elaborate details. By his method, a wooden trough is first constructed, of about 10 feet in length, by joining two boards of from 12 to 14 in. in width, and about 1 in. thick; this must be at an angle of from 100° to 110°: the inner side of the trough will have to be lined with sheathing, from 6 to 7 inches high; this should be placed on a support, and in such a way that it leaves a distance of at least 1 foot from the plane of the picking table; this must be calculated according to the stuff to be dressed and the water available for the purpose; the trough receives an inclination of from 8° to 12°; the water conducting pipe is fixed at 2 feet distance from the upper end of the trough. When the stuff is thrown into the trough, and the water is poured upon it, a hoe is employed to work it, and push the ore upwards; having reached there it falls upon the picking table, which at that spot may have a grate, for the purpose of letting the water and the smaller pieces of mineral through. This system of cleansing is much more perfect than that on a horizontal table. The greater the power of water to be obtained, so much more inclination may be afforded to the table, although much less is here required than by the other method.

The underground stuff, too small for the picking, should be concentrated into as small a bulk as possible. The large sort can be separated by jiggling, and the smalls by buddling; it is requisite to divide or separate the whole quantity of stuff being unfit for picking into as many classes as the circumstances require. Underneath the trough there is a gathering box, in which the stuff, sliding down upon the bars of the grate, is received, and the smalls are forced by the water through the apertures; this is carried by self action into a trough of lesser dimensions, and placed at an angle of from 5° to 10°; the lower end discharges this on a second grate, in a similar manner as occurs in the first process. In this last, instead of iron bars being employed, sieves of a large hole are used; the back of this grating discharges a quantity of water and stuff into a slime pit, where, without manual labour, a further separation takes place, and in most cases this is performed so effectually that the tailings and the middle of the budle can be at once thrown away. It does not require that the arrangements on the dressing-floor should be in a direct line in order to carry out these operations successfully. These processes must be varied according to circumstances, and the judgment of the ore-dresser; and this remark likewise applies to the number of grates that may be used, and their several modifications. The force obtained by the water rushing down the angle trough strikes against the apertures and the bars of the grate, so that a certain size by this action is forced through them, and the larger size must slide down on the inclined bars of the grate; these but seldom require cleansing, as the constant friction obviates the necessity of this, and the water can, by a simple arrangement, be successively used.

In the "trunking" the stuff, whether stamped or crushed, it must by a flow of water be gathered in a spout, and as often as the operation of striking against an inclined grate is required for the sake of obtaining several classes of ore, so often the water with the stuff suspended in it requires to be concentrated in a spout. Mr. Thost then alludes to the passing of water through the rollers at the time of the operation of crushing is being proceeded with. In the case of ore stuff having been stamped, the water and the material having passed through the sieve plates at the sides of the stamp heads, must be gathered in an angle trough, the end of which discharges the water and slime on a grate of the like construction. The arrangements for "buddling" appear to be of a very simple nature, as by the previous operations any of the obstructions which might impede this last process are cleared away.

The whole of the apparatus is in operation at the Tyndrum Mine, in Perthshire, belonging to the Marquis of Breadalbane, which are under the superintendence of Mr. Thost, and can be seen by any one visiting the district. The method, that gentleman observes, to a certain extent is novel; the work it performs is considerably greater than that by ordinary machines; the ores returned are clean, and this mode has been proved to be not only very effective, but at the same time it can be recommended for

its economy, the outlay of a few pounds being all that is necessary for the construction of the apparatus.

The inventor is of opinion that it would be of great utility at the gold diggings, for the washing of the ore, the arrangement being so simple. No machinery is required; it can be erected at any place wherever a small stream of water is at command, while the gold digger may rest assured that not a particle of gold will escape him. A single man can carry on all the requisite operations, one after the other. It is not supposed to be applicable to gold mines, but simply to diggings. Another advantage is, that the apparatus may be attached to the patent frame, the round Cornish budle, and the shaking tables. A regular and homogeneous supply of water is obtained for budding purposes, and the various operations are based upon purely self-acting and self-regulating principles. The system of dressing by Mr. Thost has been some time in operation, and according to his showing the results arrived at have been favourable. Under all circumstances, the invention has this great merit, that it is practical, and therefore unlike many of those inflated schemes for dressing and reducing ores which as yet have merely proved experimental in the majority of cases, though their projectors have amused the public with a series of chimerical trials and vague assertions for a considerable period.

## THE COAL FIELDS OF ENGLAND.

At the BRISTOL MINING SCHOOL, on Monday, Mr. Fryar delivered a lecture on the "Geography, Statistical and Physical, of the principal Coal Fields." The lecturer observed that an acquaintance with the geographical position, extent, and character of the principal coal fields, not only of our own country but also those of others, was of no little importance to the student of mining science. It opened to his mind the vast extent of the very valuable mineral deposits with the working of which he expected to be occupied during the period of his life; and might assist in enabling him to determine in what particular locality he could enter into such occupation with greatest advantage to himself and interest to his connections. It gave him enlarged views of coal as an article of commerce, and afforded him sufficient reason and argument for a nation's superiority in commercial and manufacturing greatness, and taught him the whereabouts of the elements of success in enterprise, and the facilities for their efficient development.

Great Britain might be styled the "island of coal fields." In no other country had coal been so extensively developed, nor, indeed, mineral resources in general; no other country offered such facilities for the extraction and internal transport of minerals, and their exportation to other parts of the world; and in no other country had the art of mining made such progress and proficiency. The coal fields of England were, from geographical position, arranged by Conybeare as "the great northern district," including all the coal fields north of the Trent. "The central district," including Leicester, Warwick, Stafford, and Shropshire. "The western district," including North Wales, South Wales, Gloucester, and Somersetshire. The Northumberland and Durham coal field was the one highest in rank of historical interest, as well as of extensive and skillful development. It is bounded on the north by the River Coquet, and on the south by the River Tees; its greatest length about 50 miles, and breadth 25; comprising an area of about 840 square miles. It rests on the millstone grit and shale, and is overlaid by magnesian limestone. The iniquity of the surface did not affect the dip or inclination of the strata constituting the coal measures; so that when they were interrupted or cut off by the intervention of a valley they would be found on the sides of the opposite hills at the same levels, as if the beds had once been continuous. The present irregularities of hill and dale had been occasioned by the partial destruction or dispersion of the uppermost strata constituting the coal formation. The aggregate thickness of workable seams was about 25 ft. At the Gosforth Colliery, near Newcastle, the strata had been penetrated to the distance of 1128 feet, where 43 seams of coal had been intersected. At Monkwearmouth, in the county of Durham, a shaft had been sunk to the depth of 1674 feet, or 279 fathoms. The first valuable seam of coal was found at this depth, after a labour of upwards of 10 years. Mr. Winch enumerated three principal varieties of Newcastle coal—1. The common or slate coal—2. Cannel coal; also called parrot coal; with but little bitumen or sulphur. 3. Coarse coal; also called splint coal; fracture cubical. The total produce of the district was 15½ million tons annually, and the number of collieries 273. According to the recent calculations, about 110 square miles of coal had been excavated, leaving 730 to be worked, from which it appears that the coal will not be exhausted till after a period of about 1720 years.

The Yorkshire, Nottingham, and Derbyshire coal field was next noticed; area, 1010 square miles; number of collieries, 524; annual produce, 10,800,000 tons.

The Whitehaven coal field, the Lancashire and Cheshire, North Staffordshire, Shropshire, Dudley and Wolverhampton, Warwickshire, Ashby-de-la-Zouch, Newark or North Gloucester, the Bristol, the area of which is 50 square miles. It had been arranged into five principal coal tracts, comprised in a district of about 25 miles in length and 11 in breadth. The coal tracts were—the northern, 30 miles; central, seven miles; southern, six miles; eastern, two; and western, five. The seams were generally very thin, and much inclined. The coal measures rested on the millstone grit, and were overlaid by the new red sandstone. This coal field was nearly enclosed by an elevated ridge of mountain limestone, forming a kind of boat-shaped depression, in which the coal deposit had been formed. The lecturer proceeded to notice other coal fields of importance, including the South Wales, American, French, and Belgian, giving their extent, geological boundaries, geographical position, and qualities of coal.

## EDUCATION IN THE MINING DISTRICTS.

The Annual Report upon the state of the Population in the Mining Districts, by Mr. S. H. TREMENHEESE, the Government Commissioner, has just been issued. After referring to the alterations which have been made in the rules of the Prize Associations of Monmouthshire, East and West Glamorganshire, and Carmarthenshire, and the formation of similar associations in Yorkshire, Derbyshire, Nottinghamshire, and Leicestershire, he states that he addressed a circular to a considerable number of the employers of mining labour in South Lancashire and Cheshire—a district not containing, according to a list furnished him by the Chairman of the Coal Association for the two counties, upwards of 300 collieries. He brought before the meeting of the Coal Association, at Manchester, the question of the formation of one or two of these associations for that district, when the consideration of the subject was adjourned, and will, no doubt, be discussed at the next meeting of that body. South Lancashire and Cheshire is the only remaining mining district of much importance without its prize association. When the association for Derby, Nottingham, and Leicester was completed, an attempt was made to induce the employers of miners in Warwick to join it, but the answers were, for various reasons, unfavourable, although there appears a disposition to form an association amongst themselves, or to join that already formed by the Rev. Nash Stephenson, for the Archdeaconry of Coventry.

In the neighbourhood of Chesterfield, and between that town and Sheffield, a new mineral district is being opened, and a large population is about to be collected around the works that are springing up there. From information received, he believes that there is every disposition among those in responsible positions to avoid as far as possible that which were formerly allowed by unfortunate oversight to so often accumulate in new colliery districts, from the want of due attention to what constitutes a healthy state of society, in a physical, no less than in a moral and religious point of view. It is too early yet to expect the organisation of a prize association, but the subject has been brought to the notice of some of the principal employers, and favourably received.

Mr. Tremenheese refers to some extraordinary remarks made by Mr. Norris, the Government Inspector of Schools for Staffordshire, and very clearly shows that Mr. Norris's opinions are wrong. He (Mr. Norris) proposes that money prizes should not be awarded to candidates under 13 years of age, and who shall not have regularly attended school for three years, and that no one shall be a candidate for the money prize who has not first gained the bible prize—the qualification for competing for which is two years' regular attendance at school subsequently to the age of nine. In reply to this Mr. Tremenheese justly remarks, that all the evidence collected by the Inspectors and others tends to show that a very small proportion of the children of the lower grades of the labouring classes are found at school at all at the age of 12, still less who have attended school regularly each of the preceding three years.

He has drawn attention in several reports to the propriety of requiring all boys between the ages of 10 and 14, who work below ground, to attend some day or evening school for a certain portion of time, according to the principle of the Printworks Act, but with modifications that might secure better general results. He believes that no practical difficulties of any moment would prevent the successful application of a measure, founded on the principle of the Printworks Act, to the mining districts, and he had no hesitation in affirming that a large number of the most intelligent persons in those districts desire it.

With reference to the allegation that at the Ricas Collieries the workmen had been thoroughly demoralised by the truck system, he was satisfied, after a careful examination of the books of the company, which were freely submitted to him, that under the present management there were no grounds for such an assertion. He regretted that they had not yet been able to convey the persons employing females below ground in the neighbourhood of Clydach, Nantyglo, and Blaina, although there is reason to believe that the practice is on the increase, in consequence of the facilities afforded for entering the collieries by open galleries in the side of the hills; the owners, it appears, are desirous of preventing it, but there is not sufficient vigilance on the part of their underagents, although they must be cognisant of these violations

of the law. One prosecution against Henry Thomas, the overman at Ashtree Colliery, Tredegar Works, for employing boys under 10 years of age, had resulted in a fine of £1, and 32s. 6d. costs; but relative to the employment of a boy under age, at Messrs. Isaacs's colliery, they could not obtain sufficient evidence. He had reason to believe that the law in this respect is in many instances violated in certain collieries near Oldham, and was in communication with persons in the neighbourhood on the subject. It appears from the whole report that the position of the population in the mining districts is improving, and that the Act bearing upon the subject is working in every way satisfactorily.

## MANUFACTURE OF IRON.

[FROM A CORRESPONDENT.]

Amongst the many inventors who, according to the opinion of an eminent practical man, have been amusing themselves by "playing at iron-making," scarcely any two of them have entertained a similar opinion with respect to the particular chemical compounds which give a superiority to one class of iron over another. One will try to produce a chemically pure metal, on the supposition that purity must be the desideratum; another thinks that if the sulphur and phosphorus could be removed, the iron would be of the best quality; while a third supposes that he has discovered the philosopher's stone, and proposes to introduce a small percentage of nitrogen, "as its existence in good quality iron has never received an adequate amount of attention, and therefore claims the use and production of cyanogen compounds, wherewith he will be enabled to imitate, in its chemical combination, the most sought-for descriptions of iron."

Notwithstanding the opinion of practical men that the excellence of iron is as much due to mechanical as to chemical causes, the iron chemists are disinclined to acknowledge that chemistry is unable to become a substitute for careful mechanical manipulation. Messrs. F. C. Calvert, F.C.S., and Richard Johnson, have just completed a series of interesting experiments on the chemical changes that pig-iron undergoes during its conversion into wrought-iron. The pig-iron experimented upon was No. 3 grey pig, which on analysis gave—iron, 94·052; carbon, 2·272; silicon, 0·172; phosphorus, 0·645; sulphur, 0·301; and traces of manganese and aluminium. Two cwt. of this was introduced into the puddling furnace, and 40 minutes after the first sample was taken from the centre of the molten mass with a large iron ladle, and poured on a stone flag to cool. On breaking the sample as it was taken out of the furnace, it had no longer the appearance of No. 3 grey pig, but a white, silvery metallic fracture, similar to that of refined metal. The rapid cooling of the sample was no doubt the cause of the change noticed, for it contained quite as much carbon as the pig-iron used; and further, the carbon was in a very similar condition, as in both cases a large quantity of black flakes of carbon floated in the acid liquors in which the iron was dissolved.

Upon analysis it was found that during the 40 minutes which the iron had been in the furnace, two opposite changes had taken place, for whilst the proportion of carbon had increased, the quantity of silicon had rapidly decreased, there being now 2·726 of carbon, and 0·915 of silicon. After the iron had been one hour in the furnace, a second sample was taken out, when this curious fact was still further apparent, there being now 2·905 of carbon, and 0·197 of silicon. It had the same white silvery appearance as the previous sample, but was slightly malleable under the hammer, instead of being brittle. The scoria also was on the upper surface of the mass when cold, and not mixed with the metallic iron. Five minutes afterwards the mass in the furnace having become very fluid, and beginning to enter into the state called "the boil," a small quantity was ladled out. When cold it was quite adhering to each other, and mixed with the scoria; the mass, therefore, was not compact like the former ones, but was light and spongy; its external appearance was black, and the small globules, when broken, presented a bright metallic lustre, and were very brittle under the hammer. They had for some time considerable difficulty in separating the scoria from the globules of iron; but found that by pulverising the whole for a long time, the scoria was reduced to impalpable powder, and by sieving they could separate it from the iron, which was much less friable. This iron, thus cleansed from its scoria, gave of carbon, 2·444, and of silicon, 0·194.

As soon as the last sample had been taken, the damper of the furnace, which had been closed after the first sample was taken, was slightly raised, so as to admit a gentle current of air, which did away with the smoke that had been issuing from the puddler's door. This was done, no doubt, to facilitate the oxidation of the carbon of the iron, and to increase this action, the puddler quickly agitated the mass. Under this treatment the mass swelled rapidly to four or five times its original bulk, and in 15 minutes (1 hour 20 min. from the commencement of the experiment) the fourth sample was taken. Whilst cooling small blue flames of oxide of carbon were seen in various parts of it, no doubt arising from the combustion of carbon by the oxygen of the atmosphere. This sample was so light, and formed of such minute granules, as to be exactly like an ant's nest. The particles had no adherence to each other, for by the mere handling of the mass it fell to pieces. The granules had a black external appearance, were very brittle under the hammer, and when broken presented a bright, however, metallic fracture. The analysis gave—carbon, 2·305; silicon, 0·182.

The fifth sample, taken out 15 minutes after the preceding, was an important one, as it was the first in which the iron was malleable and flattened under the hammer. It was laid out just as the boil was completed, and the molten mass began to subside. The damper was drawn up, and a rapid draught thus caused. The puddler changed his tools, using the puddle instead of the rubbie. It was less granulated and more solid when flattened. The carbon had greatly decreased, whilst the silicon remained almost stationary, the analysis being—carbon, 1·647; silicon, 0·185. As the mass rapidly transformed itself into two distinct products—scoria and malleable iron—the sixth sample was taken, five minutes after the fifth, but the appearance was similar, except that the scoria was not so intimately mixed with the globules of iron, and that these were larger, and slightly welded together when hammered. The next sample, although taken out but five minutes after the sixth, had the granules rather larger, and nearly separated from the scoria, which formed a layer at the top and bottom of the mass. The granules were more malleable. There was then of carbon, 0·693; and of silicon, 0·165. In the eighth sample, taken five minutes after the seventh, from the commencement of the experiment, being a few minutes before the balls were ready to be removed from the furnace, and placed under the hammer (it was part of one of the balls separated and placed to cool), no blue flame issued from the mass as it cooled, but it was still spongy and granulated. The granules, however, required a certain amount of force to separate them from each other, and were much more malleable under the hammer. The analysis gave—carbon, 0·772; silicon, 0·165; so that it appears that in 15 minutes from the time when the ball was completed, the iron lost 50 per cent. of the carbon which it then contained.

The balls were hammered and rolled into bars, which were found to contain—carbon, 0·269; silicon, 0·120; sulphur, 0·134; phosphorus, 0·139; and when these were cut into billets, 4 ft. in length, heated to whiteness, and rolled into wire iron, the proportions were—carbon, 0·111; silicon, 0·088; sulphur, 0·094; and phosphorus, 0·117. An analysis of the scoria which remained in the furnace after the balls were taken out showed it to contain—silicon, 16·33; protoxide of iron, 66·25; sulphide of iron, 6·80; phosphoric acid, 3·80; protoxide of manganese, 4·90; alumina, 1·04; lime, 0·70—100. Therefore the silicon, phosphorus, sulphur, and manganese, which existed in the pig-iron were found in the scoria, and probably the phosphorus and the silicon were removed from the iron by their forming fusible compounds with its oxides. The importance of such experiments as these cannot for a moment be questioned, and both theorists and practicals must benefit from the facts here recorded.

Mr. Crofts sends us the following review of the market:

Since February last an important change "has come o'er the spirit" of our market. An epoch of great activity has given place to one of the longest and most severe depressions encountered of late years. The disturbing causes appear to have been a natural re-action from high to low prices, and the consequent losses suffered by nearly all engaged in the business; the dearth of money; and, lastly, an Indian war. The depression cannot yet be said to have passed away, but yet these are symptoms of returning confidence, which should rather awaken hope than encourage despondency. Unfortunately, so constituted is the speculative mind, that the greatest reluctance is always shown to adopt the maxim of the great statesman, "to sell in the dearest, and buy in the cheapest market," the reverse being the rule. In depressed periods, the prevailing idea is to wait for the lowest point, and the result is to miss it. It is only when the market begins unequivocally to assume a firmer tone that the capitalist takes courage to operate, and those who begin the earliest to avail of the upward movement assuredly do the best for themselves. If a prediction might be ventured upon, the "turn" of the market will not be long in becoming a confirmed fact, since, irrespective of improvements in a variety of mines, which naturally and legitimately advance the value of the shares, there is already a visible desire to invest in depressed stocks, which it might be easy to indicate were this other than a general view. Mines paying their costs, or making small monthly profits from sales of ore, are, in the writer's mind, the safest of investments at all times, because they have not yet attained that stage of value which the riper concern—as the regular dividend mine, for instance—always commands. Next to this class are well managed, London conducted mines, selling ore, and constantly improving their finances by lessening

## Mining Correspondent.

## BRITISH MINES.

**ABBEY CONSOLS.**—Capt. E. Williams, Sept. 5: The engine-shaft is going down fast, and it is yielding good grey stuff. The cross-cut to the south, eastern level, is unproductive at present. All other bargains are as last reported on.

**ALFRED CONSOLS.**—M. White, T. Trelease, T. Hoaking, Sept. 9: The lode in Field's engine-shaft, sinking below the 150 fm. level, is just as for some time past; this lode, in the 150 fm. level east of this shaft, is about 3 ft. wide, containing a little ore, but not enough to value. No change to notice in the lode in the 120 fm. level, west of this shaft. The north lode in the 90, east of Davy's engine-shaft, is worth for copper per ore 12d. per fm. The south lode at this level, east of this shaft, has a better appearance than at any time since driving, having a branch on the north part from 6 to 8 in. wide, and apparently opening fast, mixed with ore and jack, which we consider is very favourable. The north lode in the 110, driving east towards this shaft, is worth for copper ore 12d. per fm. The north lode in the 100 east is worth for copper ore 12d. per fm.; this lode, in No. 1 winze, sinking below this level east of this shaft, is worth for copper ore 6d. per fm., and in No. 2 winze it is worth for copper ore from 6d. to 7d. per fm. The 100 east, on the south side, is suspended for the present; this lode, in the 90 east, is at present unproductive. The north lode in the 50, east of this shaft, is about 4 ft. wide, having a very promising appearance, and yielding good stones of ore. The north lode in the 70 is at present poor. All the other parts of the mine are just as for some time past.

**BALLYMONKIN.**—W. Barkla, Sept. 5: We have no particular change in the 15 cross-cut, driving north and south; but, from the appearance of the ground and the water coming out of the end in the north shaft, I expect a change shortly. The 15 fathoms level, driving south, has been driven since last report 3 ft.: total driven, 15 fms. 3 in. The 15, driving north, has been driven since last report 3 ft.: total driven, 13 fms. 4 in.

**BALLYVIRGIN.**—R. W. Smith, Aug. 31: No. 1 stoppage is slightly improved since last reported on, and will now yield 1 ton of lead and 1 ton of copper ore per fm. No. 2 stoppage, following north No. 1, stoppage, will also yield 1 ton of lead and 1 ton of copper ore per fm. The rise to surface will yield 10 cwt. of lead ore per fathom; there is a small portion of copper in the lode, but not sufficient to value. The shaft continues to be sunk without interruption, and the ground looks kindly, being well spotted throughout with copper ore. We are so short of water that for the last week we have not been able to do anything on the dressing floors, except spall and cob.

**BAMPFYLDE.**—Capt. Pope, Sept. 9: The new axle has not yet arrived, although daily expected. The men have cut an arch of the lode in the No. 4 shaft, from which some ore will be taken. There are beautiful stones of ore in the lode. The water is now about 5 fms. above the 20. Two more men have been taken to work on tribute 20 fms. east of No. 4 shaft, at 13s. 4d. in 12'. There will not be a vessel to take the ore now, samping before the 17th inst.

**BEDFORD UNITED.**—J. Phillips, Sept. 10: The lode in the 148 west is large, and producing stones of ore in places. The lode in the 130 east is 2 ft. wide, composed of capel, spar, and spots of ore, but worth nothing to value. The stopes in the bottom of the 115 east will yield 4½ tons of ore per fathom, and in the back of this level the stopes are worth 3 tons of ore per fathom. The lode in the 115 end west continues to produce 2 tons of ore per fm. Warner's stopes, in the back of this level, will turn out 4 tons of ore per fm. The lode in the 103 west is looking just the same as reported last week, yielding 3 tons of ore per fm.

**BODCOLL.**—F. Evans, Sept. 5: The lode in the 10 west looks better, if anything, than for some time past; it is large, with lead throughout; driven last week 2 feet: total driven, 24 fms. 4 ft. 9 in.

**BOILING HALL.**—J. Delbridge, Sept. 5: In the 60 west, on the north lode, the lode is 3½ ft. wide, yielding fine stones of copper ore; by the appearance of this lode it never can be cut in the 60 cross-cut. In the 60 east, on the south part, the lode is 9 in. wide, flockan; this is the part that King's shaft is sunk on. In the 40, by the 60 cross-cut, we have met with a small branch. We are still driving north to cut Rale's lode in the 60 west. In the 50 the sumptures are engaged cutting a plat as they commenced sinking towards the 60. In the 50 west the lode is 3 ft. wide, spots of copper ore and mundie; in the 50 east we are driving to the north part of the lode. We met with good stones of ore yesterday in the country, and much water flowing from the ground. In the 40 east the lode is 1 ft. wide, unproductive. In the 30 east the lode is 3 ft. wide, blonde and stones of ore. In the 20 east the lode is 1 ft. wide, stones of lead, not to value; in the 20, west of Austin's, the lode is 1½ foot wide, worth ½ ton of copper ore per fm. In the 20, east of King's, the lode is 3 ft. wide, stones of copper ore. In the 10, east of ditto, the lode is 1 foot wide, worth 1 ton of ore per fathom. Austin's shaft is in good ground; we expect to hole this shaft to the 40 in a month. We purpose sampling a parcel of lead this day week: on the following Monday a parcel of blonde ore, if we can get ship to take it to Liverpool. Other things in the mine are without change to notice.

**BOG MINE.**—Wm. Barratt, E. Rogers, Sept. 5: The water is all drained off the boat level; we have examined it from the eastern footway to Bunting's pit and the old engine-shaft in connection with Perkins' level. The levels on the different lodes, as might be expected, are very much out of repair; there is also a large quantity of mud lodging in the bottoms of the levels in sundry places, which must be cleared away before we can fully inspect the workings; this we hope to accomplish in a few days, when we shall put on a large quantity of men stowing for lead and blonde. The tributes' work will be brought to surface as soon as we can remove the stile and repair the level, in which we expect will not occupy more than about 10 or 12 days from this time. We shall commence clearing out the foundation for the engine-house immediately on our receiving the plan for the same. In washing over the old burrows we are getting on very satisfactorily. Mr. Henry Lyster was on; the mine yesterday, and appeared highly pleased with our progress, and to hear of our preparing for the erection of the engine.

**BOSCUNDLE.**—Wm. Vivian, Wm. Allen: In the bottoms of the 75, west of Anna Maria shaft, there are two stopes working:—No. 1 stope working by six men, at 8d. per fm.; the lode is 3½ ft. wide, worth 15d. per fm. No. 2 west of No. 1, working by nine men, at 10s. 10d. per fm.; the lode is 4 ft. wide, worth 20d. per fm. In the back of the 60, east of Matthews' shaft, there is one stope working by six men, at 4f. 5s. per fm.; the lode is 3 ft. wide, worth 10d. per fm.—North Lode: In the back of the 46, east of Dunn's shaft, there are four stopes working:—No. 1, by nine men, at 4f. 5s. per fm.; lode 7 ft. wide, worth 40d. per fm. No. 2 working by 12 men, at 6f. per fm.; lode 7 ft. wide, worth 40d. per fm. No. 3 working by nine men, at 3f. 17s. 6d. per fm.; lode 3 ft. wide, worth 18d. per fm. No. 4 working by eight men, at 4f. 5s. per fm.; lode 4 ft. wide, worth 14d. per fm. We are driving the 46, east from Dunn's shaft, under the south wall of the lode, by four men, at 5f. 1s. per fm. In the back of the 30, east of Dunn's shaft, there is one stope working by six men, at 5f. 1s. per fm.; lode 5 ft. wide, worth 9d. per fm. Since our last report, of Aug. 3, we have extended the cross-cut at the 60, east of Matthews' shaft, 7 fms. 3 ft., and we hope, in about three weeks to intersect the north lode. We consider the mine throughout to be improved since our last report. Surface operations are progressing very favourably.

**BRYNFORD HALL.**—W. Francis, Sept. 10: The 40 east, on Woodland's vein, continues to yield about 1 ton of ore to the fm., and at present appears good in the roof and bottom; a change of measures is now coming in at the forebay, from which we hope shortly to prove the rich vein in depth. The north cross-cut is driven from Woodland's vein 11 fms., and has not yet intersected a master vein. In the south cross-cut a vein has been intersected running north-west, containing a little ore, but not sufficient at present to value. We have deemed it desirable to suspend this cross-cut for the present, and drive the 45 west on Milwr vein, so as to be in a forward state by the time Page's shaft is completed. The rise against this shaft continued hard, but we calculate on reaching the shale in a few fathoms more rising, which will much facilitate the completion of this much-desired object. The 45 west, on Bonetock's vein, has the same favourable appearance, but remains unproductive. We hope shortly to intersect the line of Matthews's veins from Milwr, worked profitably from the vein south, but now unproductive. We sold 16 tons at the ticketing to-day, at 15l. 16s. 6d. per ton.

**BRYNTAIL HALL.**—J. Roach, Sept. 10: The 10, east of cross-cut, on Bryntail lode, has been extended 10 ft. during the past week; that portion of the lode being carried in, driving the end is the same in character as when reported on the 2d inst. We shall, as I before stated, in a short time commence cross-cutting through the lode.

**BULLER AND BERTHA.**—J. Hambley, Sept. 9: In sinking the engine-shaft the last 6 ft. I think it is a little improved; the lode is quite 4 ft. wide, composed mostly of gossan, mixed with quartz, spar, and mundie, spotted with copper, with a float on the south wall. Mr. Mathews was on the mine yesterday, and marked out the foundation of engine-house, &c. I have discovered stones about 200 yards from the shaft, which will be very convenient for the buildings.

**BWLLO CONSOLS.**—Captain Northey, Aug. 31: The Ffwrbyraid shaft is sunk 11 fms. below the 50, and I shall put the shaftmen to drive as soon as they sink 3 fms. deeper for a lomen, or fork. The lode is much the same as last reported. The lode in the 40, driving west, is still in a disordered state. Nos. 1 and 2 stopes are producing on an average 10 cwt. per fm. In No. 3 stope the lode is large, and principally composed of jacked, copper, and quartz—no lead to value. The lode that we are stripping down on the north side of the level in the 40 is worth 6 cwt. per fm. All the rest of our operations are going on as usual, except the crushing by night, which is a little retarded for want of water.

**CALSTOCK CONSOLS.**—W. B. Collom, R. Dunstan: The engine-shaft is being sunk to the first level, 13 fms. under adit, and the plunger and drawing lifts fixed, the engine has commenced pumping. The men having completed dividing and casting down the shaft will now commence driving east towards the course of ore seen in the winze in the bottom of the adit, and which has been sunk for 10 fms. We expect to reach the ore ground in about 3 fms. driving. The lode in the eastern end is about 2 ft. wide, and containing stones of ore, underlying north about 3 ft. in a fm. The eastern cross-cut has not yet been reached in this level. We weighed off at Kelly Quay on Friday last 83 tons 16 cwt. of copper ore, which was sold at Truro on Aug. 20, which, including carriage, amounts to 44l. 1s. 1d. Our setting and pay went off well.

**EAST ROSEWARNE.**—J. Delbridge, J. James, Sept. 5: At the engine-shaft the lode seems improving in the last 6 ft. sinking—lode 1½ ft. wide, yielding stones of ore; sunk in the past month 1 fm. 3 ft. In the 22 fm. level west the lode is small and poor; we expect a change in this end from the appearance of the lode; set at 4f. 10s. per fm., and driven in the past month 3 fms. 5 ft. 2 in. In the 22, east of ditto, the lode is 20 in. wide, flockan and quartz, with spots of ore; driven in the past month 3 fms.; set at 5s., to drive by two men. In the 22 cross-cut north no lode as yet; the ground is more wet, and rather harder than usual; driven in the past month 2 fms. 1 ft. 9 in.; set to drive by six men at 9f. per fm. for 9 ft.—North Lode: In the 12 east, on the north lode, the lode is 6 in. to 8 in. wide—3½ tons per fm.; late, this level has improved, and looking well; set to drive by four men, at 2f. per fm. and 2s. 6d. tribute; driven in the past month 3 fms. 2 ft. 9 in. In the 6 fm. level east the lode is 6 in. to 9 in. wide, yielding ½ ton of ore per fm.; set to drive the end and stop the back by four men, at 9f. per fm. and 4s. 6d. tribute; driven in the past month 2 fms. 4 ft. 4 in. As the ground seems to be bushy, or given to banches of ore, I think it advisable to drive a few fathoms further. In the south adit, towards the south lode, the ground is favourable for driving; driven in the past month 4 fms. 3 ft.; set to drive by two men and two boys, at 3s. per fm. We have suspended the 12 cross-cut south, towards the Brook lode; driven in the past month 4 ft., and driven on the supposed lode 4 ft.; the branch is very small; and unproductive; this is also suspended. The Bosanci rise, in the back of the 6, is set on tribute; risen in the past month 2 ft. 4 in. The rise in the back of the 22 east is holed in the past month to the 12; risen 5 fms. 3 ft.; this ground is set on tribute at 1s. 4d. We have set seven pitches to seventeen men; at 9s. 6s. to 1s. 4d. Our setting and pay went off well.

**EAST WHEAL RUSSELL.**—J. Goldsworthy, Sept. 10: We are pushing on the 88 with all speed, and the ground is favourable for driving. We are stripping down the lode in the 60, in the western end, but there is not enough stripped down to enable me to speak of its value per fm.; the lode is of a very promising character as far as seen; the lode in the same level, in the east end, is somewhat improved since last reported; the lode is about 6 ft. wide, composed of peat, prawn, quartz, grey, black, yellow, and carbonate of copper ore, and will at present produce from 3 to 3½ tons of fair quality copper ore per fm.; this end is leaving good ground, both in the 55 cross-cut. Nothing new in any other part. I shall send you a small box of the ore from the 60 east end to-morrow.

**FEED DONALD.**—J. Muffett, Sept. 7: I have nothing new to report this week; the lode in level B end is worth about 10 cwt. of lead ore per fm. The lode in the end of ground east from the sinking is worth from 6 to 8 cwt. of lead ore per fm. The lode in the back, stopping east over the sinking, is poor; the two men working at the stops will be engaged this week getting up the work from underground for dressing. We shall have about 15 tons of ore ready for market by next month.

**GAMBIER CONSOLS.**—J. Paskey, Sept. 8: The deepest and eastern part of the mine is not worse than last reported, but, on the contrary, apparently a little improved.

In driving a cross-cut south in the 240, from Trathian's lode, which underlies south, we have cut Bottrell's lode underlying north, there being about 12 fms. between; the lode appears large, grey, and kindly, but we have not gone sufficient on it to be able to speak fairly of its value. We should like to see this lode a little further developed, and the nearer approach of the two lodes before we commence on the large outlay proposed, and before agreed to; more particularly as, since that work was agreed to, the stock of copper ore fell to such a degree that nearly all the old tribute pitches, which are numerous in this extensive mine, ceased through the tributes being discontinued, to raise anything like their former quantity of ore; hence a falling off in the returns took place, while seriously affected the credits for the time being; but now, to the standard having rallied again, I have reason to hope that the mine will be restored to its former position, and that we shall be able to set going more speculation.

Bashleigh's lode, in the adit, though it is now in the new north ground, is opening very kindly; the lode is large and kindly, producing some good black ore in the gossans. The 40 cross-cut is being driven as fast as possible towards it, which level will fairly apprehend a short week.

**CARVANNEL CONSOLS.**—W. Robert, Sept. 9: The following bargains were set on Saturday last:—Cannister Lode: The 50 to drive east by four men, at 12f. per fm.; lode 9 in. wide, composed of capel and mundie. The 33 west by six men, at 7f. 10s. per fm.; lode 2 ft. wide, containing mundie, iron, and occasional stones of ore. A winze under the 96, by four men, at 4f. 5s. per fathom. The 85 west, by four men, at 4f. 10s. per fathom; lode 2 ft. wide, and unproductive. The 76 west, by four men, at 4f. 10s. per fathom; lode 3½ ft. wide, composed of mundie, soft spar, prawn, and quartz, and a little copper ore.

**CANTELL.**—J. Lester, Sept. 5: The dry weather seems to have broken up; I am in hopes that we shall have sufficient water to commence crushing some time next week.

**CLIJAH AND WENTWORTH.**—J. Vivian, C. Glasson, Sept. 5: No alteration in the 90 cross-cut, driving south of Walter's engine-shaft, since my last—ground much the same. In the 60, driving west of engine-shaft, on Wentworth lode, the lode is 2 ft. wide, producing good quality tin, and improving.—Jull Lode: In the 50, driving west of Mary Ann cross-course, the lode is 1 foot wide, worth 10s. per fathom for copper. In the 40, driving west of ditto, the lode is 1 ft. wide, worth 8d. per fm. for copper. In Gill's winze, sinking under the 30, and west of ditto, the lode is 8 inches wide, worth 6d. per fm.—Whitford's Lode: In the 60, driving west of cross-cut from engine-shaft, the lode is large, worth 8d. per fm. for tin. In the 50, west of ditto, the lode is large, worth 10s. per fm.

**COLLACOMBE.**—S. Mitchell, Sept. 8: During the last week, the 72 fm. level, west of the western shaft, has been driven 6 ft., and the lode greatly improved, being worth full 1½ ton of good ore per fm. The 40 fm. level, west of the western shaft, has been driven 3 ft., and the lode worth 1 ton of ore per fm. Other parts continue the same.

**COLLEGE.**—A. Braithwaite, B. Tucker, Sept. 8: Thursday last we had some rain; it lasted only half an hour; it, however, enabled us to dispense with the whim work, and we forked 3 fms. 2 ft., at whch it remains this afternoon. The 10, driving east, is not looking quite so well: we are in 2 fms. 3 ft., and have not as yet reached the footwall. The 10, driving west through the lode, is in about 4 ft.; no hanging wall as yet—looking very kindly, with a large stream of water coming, but poor as yet. The ore has been left standing in the 10, driving on the blue lode, in consequences of the stuff not yet removed lying in the way, and the captain considers it too good to mix. The tribute pitches are much improved this week. The pitch in back of the 10 north is very much improved, and, if it hold good, the men will make good wages. We cannot proceed with our dressing for the want of water.

**CWM SEBON.**—J. Boundy, Sept. 3: Saturday last was our setting-day. The lode in the 80 west is 2½ ft. wide, producing 3½ tons of copper ore per fm. In the 70 the lode is 2½ ft. wide, producing 1 ton per fm.; set to three men and three boys, 5 fms., at 2f. 10s. per fm. Set a winze to sink below this level by six men, at 3f. 10s. per fm.; this will be holed to the 80 in a few days, and will ventilate the 80 east and west of new shaft. Set cross-cut to drive north and south, three men and three boys in each, at 3f. 3s. per fm.; also set two stops in back of this level to two men and two boys, at 1f. 10s. per fm. In the 60 the lode is 1 ft. wide, producing ¼ ton per fm.; set to two men and two boys, 5 fms., at 2f. 10s. per fm. In the winze sinking below this level the lode is 1½ ft. wide, producing 2 tons per fm.; set to four men, to hole, at 3f. 10s. per fm. In the 50 the lode is 1 ft. wide, producing 1 ton per fm.; set to two men and two boys, 6 fms., at 2f. 10s. per fm. Set a cross-cut to drive south, by four men, from Noel's shaft in the 15 to cut Resfrey's lode, which is 4 or 5 fms. south of the shaft.

**GREAT TREGEUNE CONSOLS.**—J. Spargo, Sept. 9: Although there is no material alteration on the lode in the 60, yet I think we are very near the intersection of the south part, by reason of cutting a large stream of water issuing from the south part of the end. The lode in the winze is still without alteration, and producing good work for copper. I hope at the intersection of the south part we shall meet with a rich lode of ore.

**GREAT WELSH.**—J. Kernick, Aug. 29: The lode in the 20 is not yet reached to the south of the heave. The old mine lode is looking well in the 10 east; on the same lode west we have a good discovery this week. In the 20 west no alteration to notice. The winze in the edit is progressing, and opening a good piece of ground for lead.

**GREAT WEST NORTRIDGE.**—J. Richards, Sept. 10: The sinking of the engine-shaft progresses favourably to the north of the lode. In the 30 west the lode is 3 ft. wide, containing capel, mundie, pesel, quartz, and a little ore.

**GREAT WHEEL ALFRED.**—M. W. Michell, W. Arthur, Sept. 5: The lode in the 180, west of Copper House shaft, is 3 feet wide, yielding some good ore. In the 170, west of the above shaft, we have driven a cross-cut south in the evane 6 feet, but no appearance of any lode. The lode in the 160 west is 3 feet wide, carrying a branch of good ore, about 4 in. wide on the south. The 160 end, on the south part of the lode, is 2 feet wide, worth 28d. per fm. In the cross-cut between the 148 and the 160, we have intersected the south part of the lode, which is worth 10f. per fm. We shall now commence driving east on this part. No change in the 148.

**GREAT WHEEL BADDERN.**—J. Jenkins, Sept. 8: In the 61, east of the engine-shaft, the lode is 1 ft. wide, yielding good stones of lead ore; the end still in kilias, and hard for driving. In the stopes in the bottom of the 51, east of No. 4 winze, the lode is 15 inches wide, producing 2 tons of lead ore per fm.; ground rather hard for stoning. In the 51 end east the lode is 1 ft. wide, turning out good stones of lead. Our surface and other departments are much the same as for some time past. We intend sampling two parcels of good lead ore on Saturday next.

feet; the lode yields 10 ects. per fm. The 10 to drive west of ditto, by two men, at \$1. per fm.; this end is hard and poor. The stopes in back of adit, east of shaft, by four men, at 11. lbs. per fm.; the lode yields 8 ects. per fm. The stopes in back of ditto, by two men, at 21. per fm.; yields 8 ects. per fm. The 30 to drive east of ground east, towards Bwlchwyn, by four men, at 51. per fm.; the lode small and poor. The stopes in back of this level, by four men, at 11. lbs. per fm.; the lode yields 15 ects. per fm. The stopes in back of ditto, by four men, at 21. per fm.; the lode yields 8 ects. per fm. The stopes in back of the 26, by two men, at 11. lbs. per fm.; the lode yields 10 ects. per fm. The stopes in back of the 26, by two men, at 11. lbs. per fm.; the lode yields 30 ects. per fm.; to stopes and drive west of this level, by two men, at 11. lbs. per fm.; the lode yields 30 ects. per fm. At Eyscumtaw, to rise, by two men, at 41. per fm.; the lode here continues to yield about 10 ects. per fm.

**NETHER HEARTH.**—W. Vipond, Sept. 31: We have still a little ore in the level forehand, with a fine promising looking vein; set to drive by four men, at 51. per fm. Stop No. 1 west is better, the ore is dipping towards the end; set to four men, at 65. per fm. Stop No. 2 west is worth 8 ects. of ore per fm.; set to two men, at 51. per fm. The stopes on the Sun string is worth 1 ton of ore per fm.; set to four men, at 47. per fm. Two men are working flats, they are poor at present. The rise to the surface on the north vein is set to two men, at 47. 65. per fm. The Dodgeon level is set to drive, wall, and arch, by four men, at 65. per fm. The cross-cut level is set to drive, wall, and arch, by three men, at 50. per fm. The carrier has taken to Alston 13 tons 2 ects. for present sale.

**NEW CROWN HILL.**—Last week we set the 15 fm. level east, at 60. per fm. to six men; the end was poor at first, but looked very promising, and already it is better for lead than we have yet seen it in this level. The lode in the adit is better, worth 1 ton of lead per fm.; after this month we propose driving this end west. We have suspended the stopes in the back of the 22 for a short time, in consequence of the water and level being so full of jack, and have put the men to continue the rise from the back of the 15 to adit, which is set at 50. per fm.; and we have set a pitch in the back of the 15 west, to three men, at 65. per fm. for mundie, jack, and lead. Last week we sold 65 tons of jack, and we are sending down mundie for shipment as fast as possible. We shall commence dressing lead directly.

**NORTH BASSETT.**—Thos. Gianville, Sept. 9: In the 32, driving west of Grace's shaft, the flat lode is 3 ft. wide, composed of gossan and grey ore, leaving tribute ground. In the winze sinking under the 32 the south lode is yielding 1 ton of ore per fm. In the 42, driving west, the south lode is yielding 2 tons of ore per fm. In the winze sinking below the 52 the flat lode is yielding 2 tons of ore per fm.

**NORTH BULLER.**—T. Gianville, Sept. 10: The 60 cross-cut is extended 33 fms. 3 feet south from Wheal Uay engine-shaft; no lode as yet intersected, the air being very impure. I have placed men to erect a watermill, so that the ventilation will be improved, which will greatly expedite the driving; re-set to drive by four men, at 65. per fm. The engine-shaft is down 12 fathoms under the 60. I find the men have taken a bargain to sink 15 fathoms, at 204. per fm. In the 50 a cross-cut is driven 15 fathoms south, and the level extended 20 fathoms west on the course of the lode. Also a winze has been sunk about 6 ft. below the lode, underlying south 4 feet in 1 fathom. I should recommend sinking the winze a few fathoms to see the lode at a deeper point, when we shall be able to make an estimate at what depth it may be seen at the 60. As it is, I have taken a bargain to sink 15 fathoms, at 204. per fm. This is a more perpendicular direction. North of the engine-shaft, Clinton's lode has been opened on at some extent in the 40 and 50 fm. levels, and has produced small quantities of black and yellow copper ore. We have no opinion of finding a deposit of ore of importance at so shallow a level, but from the position of the mine, being parallel with some of the richest mines in the district, and traversed by some of the productive lodes in the mines to the west, I think your operation in this set, if properly carried out to a greater depth, can scarcely fail to be attended with very great success.

**NORTH CROFTY.**—William Thomas, jpa.: The tin ground east of Rule's shaft continues to yield a fair amount of tin, and on the whole looks well. The 110, driving east on Fane's lode, together with the 90 and 45, produce saving work for copper ore, and such looks more promising than hitherto. The 45, on Cherry Garden's lode, has improved, worth 61. per fm.

**NORTH DOWNS.**—W. Johns, J. Grenfell, Sept. 8: In the 30, east of the engine-shaft, the lode still maintains its size, with spots of ore, with an increase of water issuing from the end; most probably will shortly drain a winze sink by the former workers about 3 fms. before this point, where we have now engaged a pair of men to clear up the said winze, with a view of setting tribute ground. In the 30, west of the same shaft, we have cut through the cross-course. In the 20, at Bennett's shaft, we are still engaged cutting pitch, which will be completed by the end of this week; as soon as this is completed we shall resume the driving east on the course of the lode. No. 1 winze, sinking below the 10, is down to the bank of the 20; the lode is large, with a very promising appearance, and we have set a tribute pitch east and west of this mine to four men, at 65. In No. 2 winze, sinking below the same level, is down 51. fm.; the lode is greatly improved, worth 132. per fm. The 10 cross-cut, towards east, is progressing satisfactorily, and the character of the ground is looking good for mineral.—Pevere: The tribute department is much the same as last reported.

**NORTH FRANCES.**—P. Hosking, Sept. 5: We are cutting the plat in the 78, and driving east and west; I think we shall have ore in the west end in driving 2 or 3 fms. The lode in the 66, west of Eales's, is 4 ft. wide, a very promising lode.

**NORTH WHEAL ROBERT.**—J. Richards, Sept. 10: Murchison's Engine-shaft: In the 62 west but little has been done for some time past, owing to the surface water having fallen short; the lode is 4 ft. wide, containing quartz, mundie, peat, prian, espel, and occasionally rich stones of ore. In the 55 west the lode is worth 2 tons of ore per fm. In the 30 west the lode is worth 3 tons of ore per fm. In the 42 west the lode is by the side of the lode; the lode proved, when last taken down, to be 6 ft. wide, composed of capel, mundie, peat, and a little ore of good quality. In the 42 west a winze is being sunk on the south part of the lode; the lode is 2 ft. wide, and worth for the length of sink (9 ft.) 11/2 ton of ore per fm. In the 30 west the lode is unproductive; a rise is being put up in the back of this level, on the north or flocken part of the lode, against the air-shaft; the ground is favourable for progress.—Trial Shaft: In the 42 west the lode is yielding a little saving work; this driftage is about 7 fms. from the western boundary. In the 30 east the lode is very promising, being composed of capel, prian, quartz, and occasionally rich stones of ore. The different pitches throughout the mine are looking tolerably well. We calculate on sampling on the 25th inst. 220 tons of fair average quality ore.

**NORTH WHEAL WREY.**—M. Edwards, Sept. 10: There is no alteration in the lode in the engine-shaft; it continues the same in size and appearance as stated in my last. The lode in the 10, driving north, is 21/2 ft. wide, composed of flockan, spar, and mundie, with rich stones of lead and fluor-spars mixed up with it.

**OKEL TOR.**—Wm. B. Collier: The engineers are erecting the drawing-engine, and we hope to get it to work by the time named. The different levels and pitches are getting very much filled up, for the want of sufficient means to draw away the stuff. The different pitches are looking very well. As soon as the drawing-engine and crusher are erected we shall be in a position to let more pitches, as all the very large lodes now stand between the backs of the 20 and 50 will have to be taken away for the copper ore and mundie it contains. The 65 we have been compelled to suspend for the present, until the stuff can be taken away.

**PAR CONSOLS.**—J. Puckey, Sept. 7: I deferred reporting on this mine, in order to ascertain the result of certain objects of an important nature about being developed, the main copper lodes being at the time nearly all poor, but the prospects may now fairly be said to be very cheering. The 120, on Stephen's lode, will again produce 5 tons of good ore per fm. In the 150, in consequence of the lode being very poor, we have been obliged to drive by the side of it, but now are cross-cutting it, it is very bad and kindly. In driving the 150 cross-cut north from the underlay shaft to intersect the same lode, called the north part of the gossan lode, which is very kindly, and will produce about 3 tons of good ore per fm. This, and Stephen's lode, only 10 fms. off, and neither of these underlaying more than about half as fast as the gossan lode, I consider very important for the deep working of the mine, more particularly as we have cut the gossan lode grey again in the 160, where the lode at present will produce 4 tons of good ore per fm.; this shows that the lode is likely to make again under a dead level, and is an important feature to look at. The 150 is poor, but we have still a hope for ore. The tin part of the mine is much as usual; the fact of our returning a profit since 11,000£ worth of tin ore and spars tells for itself.

**PEDN-AN-DREA.**—Capt. Carpenter, Delbridge, and Thomas, Sept. 5: In the 90, driving east from engine-shaft, on Martin's lode, the lode is 10 ft. wide, ground 2 fms. In the 163 cross-cut, south from Reid's shaft, continues hard; our driving for the month is 2 fms. 3 ft. In the 163 cross-cut the ground is still favourable; we have driven during the past month 4 fms. 4 ft. 6 in. We have taken the men from the stops in the back of the 100, from Smith's shaft, for the time, and put them to drive the 100 end west on the course of the lode, and the remaining six to cut a piece out of the lode going back south, behind the 100 end east, to prove its value. The 100 east continues to look very promising, lode worth 132. per fm. In the winze sinking in the bottom of the 90, east from Smith's shaft, the lode is about 2 ft. wide, worth from 151. to 161. per fm. In the stopes in the bottom of this level the lode is 5 ft. wide, worth from 151. to 161. per fm. We weighed off our copper ore yesterday, which will realize, with carriage, 7477. 85. 16d. We have also a small parcel of mundie, about 50 tons, ready for sale, which we intend sending off in the course of a few days.

**PENCORSE CONSOLS.**—J. Champion, R. Tippet, Sept. 4: This day we have set the 6 to drive west from Marshall's shaft, by one man and two men, 3 fms. or per ton, one in the back of the 25, east of the east shaft, by two men, at 20s. per ton. We have at Newquay 90 tons of jack, and 5 tons on the floors dressed. Our copper ore are dressing as fast as possible, and have dressed about 16 tons. We think it our duty to state that in the back of the 45, east of the east shaft, we have driven through 50 or 60 tons of copper ore, and an equal quantity of jack, this is in driving as good for copper as the lode going down in the bottom of the 45, we believe there will be 100 tons of copper ore from the back of the 55 to the bottom of the 45, and if your copper is worth 51. or 61. per ton, this is of great importance, and will show the necessity for driving levels, without which a mine cannot be developed, as sinking without driving is of no use. It is a pity you should have discontinued driving the 45 east and west to prove the lode, after the expense of sinking.

**PENDREN CONSOLS.**—W. Eddy, Sept. 5: We have only broken a small piece of the lode, nor will it be wise to break any more of it until the latter part of the month—that is, next week; we shall then begin to take it down, which will take us the

week to do. It is large, nearly 4 ft. wide, 1 ft. payable ore; if it should hold as it is, or become a little better, Pendren will soon tell its own tale. The ground is not so good for driving as it was before we had the ore, being very wet for blasting. Our sumpman will get the shaft down to the 82 this month, with lift complete; lode just the same size. It appears that both lodes intersect each other in the south end of the shaft, and that they go toward together, and separate going south. Our mine has been inspected this week by different parties. All have a high opinion of it, and say that now is the time to take an interest in it. It is my opinion that shares will never again be so low as at present. So soon as we take down the lode, or should we have

any improvement, I will write you.

**POLBREEN.**—Sept. 7: In my last report I stated that the engine-shaft was nearly cleared up to the bottom; since then we have done so, and cleared out the bottom level, which is of greater length than we expected, from the reports we have. Dorcas's lode, which underlies south, is 17 fathoms south of the engine-shaft, in the 33, and the level is extended 131 fathoms east on it; there has been a little done on it—that is, on the lodes in the back near the cross-cut; but the lode is small, and in the end we can hardly make out any lode; there is a small cross-course near the end, and plenty of water flowing from the ground inside of it; we have put two men and two boys to drive a little to see what it is. If we can find the lode without much cost, and if the ground is not too hard, it may be advisable to drive on here with a full pare; however, before determining on that, we shall see a little more of it first. The cross-cut in this level is extended 71 fathoms south of Dorcas's, but nothing like lode has been met with. I stated in my last that we had set a pare to drive west of sump, in the 22, to search for Tregay's lode, but since then we have thought it the safest plan to drive the cross-cut, which is now being driven north a little further first, to see if the lode is yet north. We have put the sumpman to sink Dorcas's shaft below the 22, and we hope to be able to get down deep enough for fixing the bottom of the lift with the tackle and barrels; in the meantime, we must look about and pick up rods, bars, a small lift, &c., for drawing from this shaft; a 6-in. lift will be large enough. The water will run back to the engine-shaft through the 22 fm. level. The engine is keeping the water at about 31/2 strokes per minute, with an 8-in. bore. I should observe that we have not done much on the lode in the shaft yet, but it is a good size (from 18 to 20 in. wide), and very kindly, with a little tin. There has not been any lode taken down in the 13 fm. level since setting day, the men are driving by the side of it for dispatch. Dorcas's lode, in the 22, east of Dorcas's shaft, is looking very well; it is in two parts, and both running very regular, each part is from 9 to 12 in. wide, and good work for tin; this is a kindly end, and in the best place we could desire it, as it is going into arid ground, and what is called kindly ground. We have two pairs of tributes at work, one in the back of the 12, on Tre-gay's lode, west of the engine-shaft; and another in the back of the 22, west of Dorcas's shaft, on Dorcas's lode. The pair who were at Thomas's shaft on the copper have finished; there is hardly ore enough in the lode; they have broken 11 or 12 tons, but it is very low priced. We put a man to begin to split the tinstuff on Saturday, so as to get it ready for stamping against the water comes. We intend taking a few samples of the work in a few days (that is, when split), to see how it yields.

**PRIDEAUX WOOD.**—J. Puckey, Sept. 8: In consequence of the long drought and the scarcity of water, we have not had sufficient at Fowey Consols to be spared any to work the hydraulic engine at this mine; consequently, the water is in the bottom of the mine, and the principal workings have been impeded in their progress.

We have recently sold from this mine black tin to the amount of about 4261. When the mine again gets in fork, we shall proceed with the sinking of the engine-shaft on the course of the lode, below the 54, where the lode is kindly, producing gossan and some spots of copper ore; also with the driving of the 54, east and west on the lode.

The prospects of the former are favourable, both for tin and copper. On resuming the driving of the adit end east, we find the lode is improved a little for copper, but before anything further can be done towards the driving we must sink an adit shaft on the end, which shaft will run about 30 fms. from surface; and in driving further east on the lode we shall gain 20 fms. more, making the adit 50 fms. deep. The new shaft will be immediately on the junction of the granite with the killas.

**QUEEN OF SHEBA.**—P. Hawke, Sept. 8: I have not been able to identify anything of more importance in crossing north in the 30; however, I intend to push a little further in that direction, when, without a further discovery, I shall conclude that the course we have already passed, some 4 fms., must be the main lode. We have taken down the lode in the 20 east, which at present appears to be somewhat disordered, being split up, having a composition of killas, mundie, and a little copper ore. The stopes in the back of the 20 are yielding about the same quantity of copper ore as reported last week—31/2 to 4 tons to the fm. The machinery looks well.

**RHEIDOL.**—Capt. Ridge, Sept. 8: Bathdu: At the engine-shaft we have a very promising lode, 3 ft. wide, with a good mixture of lead and blende ores.—Gwaliaoch Engine-shaft: The 12 has been driven 15 fms.; we have employed four men to stop the lode in the back of this level during the last month, who have got 3 tons of ore; this ore is superior to any on the mine. I have no doubt this will make a better part of the mine, owing to its making ore in depth. We have 3 fms. to rise to communicate with the deep adit level, which will be completed in a month, when we shall be prepared to drive the level west in good ore ground.—Rhurhgoes Cross-cut: The bearing part of the lode has shifted westward to 11 fathoms; we have to drive 5 or 6 fms. to come into the run of ore ground above this, will be completed in five or six weeks. I have no doubt this lode will turn out well.—Nantglas Midway Level: The ore has solidified, is looking very well, and the character of the ground is looking good for mineral.—Pevere: The tribute department is much the same as last reported.

**RIVER TAMAR.**—(Limited).—J. Cook, Sept. 10: During the past week we have divided the shaft from the 50 to the 60; the shaftwork is made in every way complete; the sinking of the shaft and other operations are progressing favourably, and the prospects of the mine are very encouraging.

**ROSEWALL HILL AND RANSOM UNITED.**—Paul Roach, Sept. 9: Since the 2d inst. we have cleared 10 fms. of adit, put up the main-boil, put in the boiler, commenced taking out ground for foundation of steam-wind house, and cut down 3 fms. at the engine-shaft, &c. The smiths and carpenters are busily engaged about the engine and pitwork, with the assistance of labourers, which work will shortly be putting together for the completion of the machinery.

**ROUND HILL.**—John Kneebone, Sept. 9: The new engine-shaft is sunk about 21/2 fathoms below the 40 fm. level; lode small and poor, and ground rather hard for sinking. The lode in the 40 fm. level, north of the new engine-shaft, is 12 in. wide, producing saving work. The lode in the 40 south is 3 feet wide, yielding 2 tons of ore per fm. The stopes below the 10, south of Matthews's winze, will yield 20 ects. The lode in Botten's winze, sinking under the 20, north of new engine-shaft, will yield 30 ects. of ore per fm. On Monday last we sampled August parcel of ore (composed) 35 tons, and sent samples on to the smelters, as usual.

**SILVER BROOK.**—Wm. Hosking, Sept. 10: The shaftmen have now completed dividing and raising the shaft from the 71 to the 80, at which level we are now driving north with all energy to reach the ore ground gone down from the 71, which was met with in this level, at 12 fms. from the shaft; and, in all probability, we shall reach it in the 80, in 11 fms. further driving. In the tribute pitch in the back of the 71 north there is a good branch of zinc and lead ore, varying from 8 to 12 in. wide; working at a tribute of 6s. in 11. The lode in the end in the 22 north is 31/2 ft. wide, and presents a very interesting appearance. The trial level in the western part of the set is extended 23 fms., and is still being driven through a beautiful channel of ground. I anticipate intersecting a lode in this level in 6 ft. further driving.

**SITHNEY WHEEL BULLER.**—S. Reed, Sept. 5: The operations of the past month have been actively carried on, and although we have had to contend against unusual hard ground at one or two points, the progress on the whole has been of a satisfactory nature. During the month we have opened on some good tin ground in sinking the winze from the 50, also in the rise from the north shaft above the 60, on Schneider's lode; and when these are communicated (which will be effected in the course of a few days) we shall lay open some valuable tribute ground. The lode in the rise continues to be worth 151. per fm.—set to drive eight men, at 61. per fm.; and also stated in many of my reports of late, the position of the lodes at this point should be thoroughly ascertained before we sink the north engine-shaft below the 80. I hope in the course of a few days this will be done, and resume sinking at a new and proper angle. The 60 east, on the new south lode, has been driven in the past month 2 fms. 5 ft.—now set to two men and two boys, at 81. per fm. The lode in this end is about 1 ft. wide, producing a little tin, but not enough to value. Schneider's lode, in the 50 east, is much the same as last reported, producing occasional stones of tin—driven in the past month, 4 fms., and set to three men and three boys, one month, at 61. 15s. per fm. The cross-cut north in this level, from the new south lode, is set to four men, one month, at 61. per fm. The cross-cut north in this level to be communicated and made complete to Schneider's lode, by two men, for 40s. This, when complete, will effect a good ventilation in the eastern part of the mine, and facilitate the extension of this level eastward. In consequence of the ground being a little harder in the 50, west of cross-cut, I have given the men 1 1/2 st. per fm. stent, which will be set at 21/2 fms. 5 ft.—now set to two men and two boys, at 81. per fm. The lode in this end is about 1 ft. wide, producing a little tin, but not enough to value. Schneider's lode, in the 50 east, is much the same as last reported, producing occasional stones of tin—driven in the past month, 4 fms., and set to three men and three boys, one month, at 61. 15s. per fm. The cross-cut north in this level, from the new south lode, is set to four men, one month, at 61. per fm. The cross-cut north in this level to be communicated and made complete to Schneider's lode, by two men, for 40s. This, when complete, will effect a good ventilation in the eastern part of the mine, and facilitate the extension of this level eastward.

**WEST BASSET.**—Wm. Roberts, Sept. 8: On the engine lode, in the 75, west of Percy's shaft, the lode is 4 feet wide, composed of capels and stones of ore. In the 65 west the lode is 2 feet wide, producing 2 tons of ore per fm. The 52 west produces 3 tons per fm; lode 7 feet wide. In the 42 west the lode continues 3 feet wide, kindly with stones of ore.—Caunter Lode: In the 94 east the lode is 3 ft. wide, producing 2 tons of ore per fm. The 75 east produces 1 ton per fm.

**WEST FOWEY CONSOLS.**—J. Puckey, Sept. 8: Protection lode, the between 80 and 90, has not produced so much ore as expected from appearances in

and I hope, and fully believe, that before the end of the year we shall be in the market with a considerable quantity of the produce.

**WHEAL POLLARD.**—J. Nance, Sept. 9: The driving of the 35 cross-cuts is progressing much as usual. We have intersected a branch of peach in the south cross-cut, 4 in. wide, with particles of yellow copper ore, underlying north 3 ft. per fm.

**WHEAL RUSSELL.**—A. Barratt, Sept. 10: In sinking Matthews's shaft we have, in the last few days, met with a lode about  $\frac{1}{2}$  ft. wide, producing good stones of ore, equal to 1 ton of ore per fm. for the length of the shaft—11 ft.; its underlay is about  $\frac{3}{4}$  ft. in the south, whereas the main lode of the mine is  $\frac{1}{2}$  ft. to the north; the distance between the two lodes at this point is about 7 fms., consequently the meeting or junction of the two lodes will be 10 fms. below, a point I consider of no little importance. We continue to drive the 62 east of Matthews's shaft, but no part of the main lode has been taken out in the present end of the level, which is producing some good stones of ore, but I cannot say much about it for the present. The stopes in back of the 62 are producing  $\frac{1}{2}$  ton of ore per fm. We continue to drive the cross-cut north in the 60, but no lode has yet been met with: we are every day expecting to cut into it.

**WHEAL TENEYD.**—D. Lankbury, Sept. 9: In sinking Matthews's shaft we have, in the last few days, met with a lode about  $\frac{1}{2}$  ft. wide, producing good stones of ore, equal to 1 ton of ore per fm. for the length of the shaft—11 ft.; its underlay is about  $\frac{3}{4}$  ft. in the south, whereas the main lode of the mine is  $\frac{1}{2}$  ft. to the north; the distance between the two lodes at this point is about 7 fms., consequently the meeting or junction of the two lodes will be 10 fms. below, a point I consider of no little importance. We continue to drive the 62 east of Matthews's shaft, but no part of the main lode has been taken out in the present end of the level, which is producing some good stones of ore, but I cannot say much about it for the present. The stopes in back of the 62 are producing  $\frac{1}{2}$  ton of ore per fm. We continue to drive the cross-cut north in the 60, but no lode has yet been met with: we are every day expecting to cut into it.

**WHEAL TREBARWY.**—R. Gandy, F. Hoaking, Sept. 8: We are now sinking the engine-shaft below the 60 fm. level in favourable ground. The flat-rod shaft is in course of repair, and the pitwork out of use all taken up. The Bluebarrow shaft, on the old mine, is cleared to the 10. Richard's shaft, on the old mine, is now being prepared for working, and we think we shall get down to the 30 dry. In the 60, east of engine-shaft, the lode is 10 in. wide, composed of spar, jack, muriac, and ore. In the 60, east of flat-rod shaft, the lode is 2 ft. wide, but unproductive at present. The winze sinking below the 50 is suspended on account of water, the ground east of which is let on tribute, at 4s. 11d. In the cross-cut south from Michael's shaft we have cut through the cross lode, and are now driving at right angles to intersect the old mine lode, as the course of the cross lode was carrying us too far east; the ground looks very congenial for copper.

**WHEAL TREFUSIS.**—Z. Carkeek, Sept. 8: The engine-shaft is sunk 13 fathoms below the 42; the lode is split up in branches. We have commenced to drive east and west in the 33. In the 42 east the lode is 3 feet wide; the north part of the lode yields a little black ore. In the 42 south we have cut a branch, and south of it there are esops, and letting out a quantity of water; therefore, we expect more lode a little further south. In the 30 east the lode is 18 in. wide, composed of spar and spar. In the 15 east we are rising against Nicholls's shaft; the lode is 18 in. wide, yielding tinstuff of low quality. At Nicholls's shaft, sinking below surface, the lode is 12 in. wide—poor. We expect to have about 6 fms. more to hole to the 15. The tribute pitches are without alteration. We expect to sample 20 tons of copper ore next week.

**WHEAL TRELAWNY.**—W. Bryant, W. Jenkins, Sept. 10: Smith's shaftmen are still engaged in cutting a trip-plate at the 12. The lode in the 132, north of Smith's shaft, is 2 ft. wide, and worth 10f. per fm. In the 98 north it is 1½ ft. wide, and worth 7f. per fm.—**SOUTH MINE:** In the 142, south of Trelawny's shaft, it is 3 ft. wide, and worth 7f. per fm.; in the same level north we are still driving by the side of the lode. In the 130 south it is 2½ ft. wide, and worth 14f. per fm. The stopes and pitches are producing much as usual. We sold on the 5th inst. two parcels of lead ore—No. 1, computed 83 tons at 24f. 6s. per ton; No. 2, computed 50 tons, at 3s. 2s. per ton, to Messrs. Sims, Willmott, Nevill, and Co.

**WHEAL TREMAYNE.**—R. Williams, J. Williams, Sept. 5: At the boundary engine-shaft there is nothing new since last report. In the 113, east of the shaft, on Allen's branches, the branches are improving, yielding good stones of tin, with the appearance of further improvement; the stope in the back of the same level is yielding low price tinstuff. In the 108, east of Allen's shaft, on Allen's branches, the branches are a little disordered by floors of spar, being now worth 12f. per fm. The stopes in back and bottom of the same level east and west of shaft, are worth on an average 17f. per fm. The stopes in bottom of the 73, east of the same shaft, on Allen's branches, are worth on an average 7f. per fm.

**WHEAL UNION.**—T. Glanbury, Sept. 9: In the 20 fm. level, driving west of engine-shaft, the lode is 4 ft. wide, composed of spar, mixed throughout with yellow ore, and has a very promising appearance. The other parts are without alteration.

**WHEAL WREY CONSOLS.**—P. Clynn, jun., W. Hancock, R. Roskilly, Sept. 10: The engine-shaft is sunk 12 fms. 1 ft. under the 54 fm. level. The lode in the 54 south is 3 ft. wide, producing 8 cwt.s. of lead per fm.; in the same level north the lode is 2½ ft. wide, producing 7 cwt.s. of lead per fm.; in the same level north the lode is 2½ feet wide, producing ½ ton of lead per fm. In the 33 north the lode is 1½ ft. wide, producing 4 cwt.s. of lead per fm. The north shaft is sunk 1 fm. 1 ft. under the 54 fm. level; the lode in this level is 1 ft. wide, producing 4 cwt.s. of lead per fm. The stopes and pitches are producing much as usual. We sampled yesterday a parcel of lead ore, computed 63 tons, for sale on Sept. 17.

**WHEAL ZION.**—Capt. Phillips, Sept. 9: The 50 west, on the north lode, continues to produce very well, and is opening ground that will pay for taking away. The 50 east, on the main lode, looks more kindly; we have a larger lode, and stones of copper ore. The 65 east is without alteration. In the 50 west the lode has a very kindly appearance, producing stones of copper ore.

**WILLOW BANK.**—T. Paul, Sept. 10: The end of the adit is now 8 fms. 4 ft. 6 in. from hoisting into the shaft, and it is very wet indeed, probably from the water at the shaft, which is now draining away at the rate of 3 ft. per day. The boring I suggested would not, I fear, be of much use, but it seems very probable that the adit even now will drain the shaft in a few days, and enable us to work without any extra pumps. Capt. Sanders is making all the preparation he can to resume the sinking; but, as the order was unexpected, it will take some time to get things in their places again; and by the time everything is ready, and the 1 fm. sunk to the bottom of the adit (the shaft is now sunk to the top of the adit), in all probability the adit will be hoisted into the shaft, and the necessity for putting up a whin, &c., be avoided, as the pump we will have to sink the extra 10 fms., with having a new working-piece and wind-horse, which will be ordered to-day. Capt. Sanders will keep memoranda of all that he does, and of any hindrance caused by the weather, &c. The adit is so close up that I think we shall be able to resume the working with very little expense, and matters are in a more satisfactory position than I anticipated. The 17 west does not improve, and the lode is very much disordered in the present end. The 30 west will be suspended for a while, to lessen the cost, as the 30 east is where the plat is being cut, and is also likely to reach ore ground as soon.

**WHEY CONSOLS.**—W. Williams, Sept. 10: Since my last I have been engaged removing the wheel, and it is now on its way coming here. We shall lose no time in getting wheel-pit, &c., built, so as to be in order to work the wheel before the winter weather sets in. The engine-shaft is sunk about 4 fms. from surface, and we are now engaged preparing the timber to make the same secure. The adit level driving east is without alteration. The new cart-road will be finished this week.

**YARNER (Bovey).**—J. Hampton, Sept. 9: A few parties have commenced this mine, and at present are working it as a private company; they have erected a water-wheel of sufficient power to pump the water and draw the staff 60 fms. deep. The shaft is now sunk 10 fms. under the adit, and a cross-cut driven to the intersection of No. 1 or Watt's lode. The lode has been driven only a few fathoms, and is improving every fathom; the present end contains a fine lode, 4 ft. wide, composed of peach, quartz, muriac, and very fine stones of copper—in fact, should the end continue to improve in the next 10 fms. as it has in the last 5 fms., the mine will immediately pay cost. I should state that the present 10 fm. level is driving against a hill, which will leave ultimately 60 fms. of backs to be taken away. A cross-cut is being driven east, to intersect another lode, about 10 fms. from No. 1 lode, and from the backs I should judge it will be equally as productive as the No. 1 lode. Altogether it is one of the most promising mines I have seen for some time. I have no doubt the proprietors will soon be rewarded tenfold their outlay.

**MINING SPECULATION.**—An extraordinary instance of the uncertainty of mining has recently occurred with a large and well-known speculator in the City. He held nearly 800 shares in Wheal Cupid, and which altogether cost him a very large amount. These he disposed of for a mere bagatelle, and immediately afterwards the mine improved, and shares were freely dealt in at 2½ to 3½—23000, for the 500 shares, and they are still rising. During the time the party alighted to hold 4/5ths of the mine no dealer would have any transactions in the shares, knowing that at the caprice of one holder the mine might be stopped in a day. The same capitalist was a large holder in North Grambler, which he disposed of at a nominal price, when a few days afterwards they ran up to 30s. The lucky purchaser is well known in Redruth, and must have made a very handsome sum from the affair. Wheal Cupid adjoins Pen-an-dreys, and as the rich lodes of that mine traverse the set, it is considered a speculation of the first class. From the knowledge the parties have who recently joined the adventurers, it is considered they are well acquainted with the merits of the mines. These facts show the necessity for mine adventurers who purchase for investment to retain their interest, and have confidence in a mine, irrespective of the market price of shares, provided the prospects are such as to justify the anticipation of ultimate success. We are informed that the shares cost the original holder upwards of 8000l., and some were disposed of as low as 1s. per share. Had he continued to hold on for a short time longer, he might not only have recovered his outlay, but made a good profit.

**IRON SHIPBUILDING.**—Mr. John Clare, jun., of Liverpool, has just completed a model ship, showing his proposed improvements. We learn that several good judges of naval architecture have inspected it, and pronounced a very high opinion on the great advantages they believe it to possess, and the probability that a large steamer on the principle would prove eminently successful, and be found more safe, expeditious, and economical, than any now afloat. We understand it is contemplated to construct a monster steamship, to be of 30,000 tons, and capable of going 25 miles an hour, propelled by screw and paddles. This great Leviathan is to be 1000 feet long, 70 broad, and 30 ft. deep, and that with a full cargo, in the best trim, the vessel would not draw more than 20 feet of water.

**RAILWAY TRAFFIC.**—The Traffic Returns of the Railways in the United Kingdom for the week ending Sept. 5, amounted to 516,260L, and for the corresponding week of 1856 to 500,100L, showing an increase of 16,160L. The gross receipts of the eight railways having their terminus in the metropolis amounted for the week, ending as above to 215,709L; and for the corresponding week of last year to 214,900L, showing an increase of 719L.

The increase of the Eastern Counties amounted to 15,601L on the Great Western to 645L; on the London and North-Western to 1470L; total, 3655L. But from this must be deducted 5602L, the decrease on the Great Northern; 267L on the London and Blackwall; 795L on the London, Brighton, and South Coast; 239L on the London and South-Western; and 704L on the South-Eastern: leaving the increase as above 719L.

The receipts on the other lines in the United Kingdom amounted to 300,581L, and for the corresponding period of 1856 to 235,110L; showing an increase of 15,441L, in the receipts of those lines which, added to the increase on the metropolitan lines, makes the total increase 16,160L, as compared with the corresponding week of 1856.

## The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET, London, September 11, 1857.

COPPER.	E. s. d.	FOREIGN STEEL.	Per Ton.
Copper wire ..... p. lb. 0 1 3½	—	Swedish, in kgs ..... 22 0 0 —	
ditto tubes ..... 0 1 4—1 4½	—	" to arrive ..... 21 10 0—21 15 0	
Sheathing and bolts ..... 0 1 1½—2 1½	—	Ditto, in faggots ..... 23 0 0 —	
Bottoms ..... 0 1 2—1 2½	—	English, Spring ..... 18 0 0—23 0 0	
Old Exchange ..... 0 1 0	—	QUICKSILVER ..... p. lb. 0 2 2 —	
Best selected ..... p. ton 12½ 10 0—	—	SPELTHER.	Per Ton.
Tough cake ..... 12½ 10 0—	—	Foreign ..... 31 0 0 —	
The ..... 12½ 10 0—	—	To arrive ..... 31 0 0—31 5 0	
South American ..... —	—	KING.	—
IRON.	per Ton.	In sheets ..... 36 0 0—36 10 0	
Bars, Welsh, in London ..... 8 10 0—8 15 0	—	TIN.	—
Ditto, to arrive ..... 8 5 0—	—	English, blocks ..... 140 0 0 —	
Nail rods ..... 9 0 0—	—	Ditto, Bars (in barrels) ..... 141 0 0 —	
" Stafford, in London ..... 9 5 0—10 0 0	—	Ditto, Reduced ..... 144 0 0 —	
Bars ditto ..... 9 10 0—10 10 0	—	Bancos ..... 142 10 0—142 0 0	
Hoops ditto ..... 10 7 6—11 0 0	—	Straits ..... 141 0 0—142 0 0	
Sheets, single ..... 11 0 0—11 10 0	—	TIN-PLATES.	—
Pig, No. 1, in Wales ..... 4 10 0—5 0 0	—	IX Charcoal, Istqua, p. ax. 1 19 6—2 0 0	
Reduced metal, ditto ..... 5 10 0—5 15 0	—	IX Dito 1st quality ..... 2 0 5—2 0 8	
Bars, common, ditto ..... 7 10 0—	—	IX Dito 2d quality ..... 1 18 0—1 18 0	
Ditto, rail way, ditto ..... 7 7 5—7 10 0	—	IX Dito 3d quality ..... 2 0 4—2 4 6	
In stock to arrive ..... 14 10 0—16 10 0	—	IX Coke ..... 1 14 6—1 15 6	
Brass (sheets) ..... p. lb. 11½d.—12d.	—	IX Dito ..... 2 0 0—2 1 6	
Wire ..... 11½d.—12d.	—	Canada plates ..... p. ton 16 0 0—16 10 0	
Tubes ..... 13½d.—14d.	—	In London; 20s. less at the works.	
LEAD.	—	Yellow Metal Sheathing ..... p. lb. 11½d—	
English Pig ..... 23 15 0—24 10 0	—	Wetterstedt's Pat. Met. ..... p. cwt. 2 2 0	
Ditto sheet ..... 24 15 0—25 0 0	—	Stirling's Non-laminating, or Hardened Surface Rails, p. ton	9 0 0—9 2 0
Ditto red lead ..... 20 0—26 5 0	—	Stirling's Patent ..... Glasgow. — 5 5 0	
Ditto white ..... 27 0—28 10 0	—	Toughened Pigs ..... — 7 10 0	
Ditto patent shot ..... 27 0—28 17 0	—	Indian Charcoal Pigs ..... — 7 10 0	
Spanish, in bond ..... 23 10 0—23 15 0	—	In London; 12s. 6d. per box less.	
American ..... —	—		
BRASS.	—		
(sheets) ..... p. lb. 11½d.—12d.	—		
Wire ..... 11½d.—12d.	—		
Tubes ..... 13½d.—14d.	—		

**REMARKS.**—No alteration of any considerable importance has taken place in the metal market during the past week. Scotch pig-iron continues to recede; foreign tin is weaker, and Staffordshire iron is steady.

**COPPER.**—This metal continues in good demand; and from the high price of ore in comparison with that of manufactured, it is anticipated that a further rise is inevitable. This may probably account for the ready manner in which purchasers pay current rates, and the indisposition on the part of the smelters to press for orders.

**IRON.**—Both Welsh and Staffordshire iron continues steady, and there is no necessity for lower rates to be accepted. The number of orders from the United States and France, and the Continent generally, is comparatively small, but some of the Yorkshire houses are well engaged with France, the Yorkshire iron appearing to be gaining favour there. The Scotch pig trade is almost without any legitimate demand, although some transactions of a speculative character have taken place. Mixed numbers are worth from 67s. to 67s. 6d., f.o.b. in the Clyde.

**LEAD.**—There is but a small amount of business doing in this metal, but as the demand is just enough to prevent any serious increase of the stocks in the hands of sellers, there appears no inclination on their part to accept lower rates, so that the position of the metal in this respect must be considered as maintained, although some deem the prices only nominal.

**SPELTHER.**—In this there is really nothing doing, but prices do not decline in consequence.

**TIN.**—English remains as reported last week—quiet, but without alteration in price. Banca and Straits is depressed, and buyers have the advantage decided, but it is thought that after the prompts are met both these descriptions will regain their position. However, the slackness of the trade in foreign tin is insufficient to have any material effect upon English.

**TIN-PLATES.**—The enquiry for tin-plates is decidedly less, and prices are scarcely so firm as they were last week, although the nominal quotations remain the same.

**LIVERPOOL, SEPT. 10.**—The past week has exhibited no new feature in our market for metals generally, the position of the trade being unaltered. The demand for Welsh bars, and also for Staffordshire Iron of all descriptions, continues to be steady, and prices for the most part are fairly maintained. A good enquiry exists for the continental markets, but from the United States the orders are much lighter than it was expected they would be. Scotch Pig-iron has continued to recede gradually during the past week, and the fall in price has been to the extent of 3s. per ton; to-day, however, the market shows some symptoms of recovery, and buyers appear to be more anxious to operate; the present price is somewhat favourable to speculators, being lower than it has been for many months past. The shipments are fair, but show a falling off to some extent, being 9270 tons, against 10,821 tons for the corresponding week of last year, or a decrease of 1551 tons. The requirements for local purposes are unabated, and the present comparatively low price will doubtless tend materially to increase consumption. English Tin shows no signs of alteration, price and demand being steadily maintained. Foreign Tin is weaker, and buyers have the advantage in prices. Tin-plates are scarcely so firm as they were last week, as the enquiry appears to have slackened somewhat; still, there is no giving way of importance reported. Copper continues to be in good demand, and current rates are freely paid. In Lead, there is not much doing; prices are nominal. The following are the quotations:—Iron: Merchant bar, 7s. 15s.

balance against adventurers of 3054. £s. 3d. A call of 2s. 6d. per share was made. Capt. Neill attended the meeting, and gave a most excellent account of the present position and future prospects of the mine. Mr. Down was appointed secretary and purser, at a salary of seven guineas per month. The secretary was directed to take steps for securing the amount due from the Royal British Bank.

At Tavy Consols Mining Company meeting, on Tuesday (Mr. Lundie in the chair), Mr. Codd, the secretary, stated that it was called for the purpose of forfeiting the shares in arrear of call, the number being 695, upon which 103. 10s. was due. A resolution was passed that, in lieu of forfeiting the shares, they be placed in the hands of the purser, who was directed to take proceedings immediately in the Stannaries Court against the defaulters. Mr. Codd stated that he was obliged to leave London, and therefore wished to resign his office as soon as possible. It was resolved to accept the resignation, and refer to the committee the election of a competent gentleman to succeed Mr. Codd. The Chairman proposed a vote of thanks to Mr. Codd, for the courtesy, diligence, and ability he had displayed whilst in office. Mr. Coke, considered the shareholders had gained a great deal of knowledge since their affairs had been in Mr. Codd's hands. The vote of thanks was then unanimously carried. Mr. Codd, in answer to a question, said he expected that the next sampling would be about 4000. worth of ore.

At the North Tavy Mine meeting, on Tuesday (Mr. T. C. Smith in the chair), the accounts showed a balance against the mine of 361. £s. 5d. A call of 5d. per share was made. Mr. Codd resigned his appointment as secretary, and the proceedings, which are reported in another column, terminated with votes of thanks to the Chairman and Mr. Codd.

At the Oola special meeting, on Monday, convened for the forfeiture of shares in arrear of call, the secretary stated that all outstanding calls had been paid.

The new 10-in. cylinder engine has been set to work at Rosewarne Consols. A deputation of adventurers was on the mine, and after the engine was started a dinner took place, of which the agents and all interested partook. In the course of the evening, "Success to Rosewarne Consols" was not forgotten.

At Trewane United, in extending the 30 fm. level the north and south roads has been intersected in a course of rich silver-lead ore, worth about 10s. per fm.

At the Great Wheal Vor United Mines quarterly meeting, to be held on Wednesday, the accounts to be submitted will show—Balance last audit, 5340. 2s. 2d.; calls received, 574. 1s.; proceeds of the sales, May, 4461. 0s. 4d.; June, 4025. 0s. 6d.; July, 4196. 1s. 1d.; 18,797. 0s. 1d.—Mine cost, May, June, and July, 11,550. 17s. 6d.; merchants' bills, 4979. 0s. 2d.; payments on account of leases, 125. 0s. 2d.; Sithney Wheal Buller on account of calls, 309. 7s. 6d.; interest and discounts, 132. 4s. 7d.; London expenses, including law charges, printing, auditors, &c., 419. 1s. 1d.: leaving balance in favour of adventurers, 1863. 12s. 3d.

At the Wildberg Great Consolidated Mining Company meeting, at Cologne, on August 21 (Mr. F. Twynham in the chair), the accounts for the year ending June 30 showed—Balance last account, 1533. 5s. 8d.; mines and smelting works, cost, interest, commissions, &c., 16,655. 11s. 2d. = 16,185. 16s. 10d.—Lead, silver, &c., 7805. 5s. 7d.; sundry receipts, 92. 2s. 3d.: leaving balance against the adventurers, 3269. 9s.

The report stated that the restrictions imposed by the local authorities had been entirely removed. The ores forwarded to the smelting works from July 16 to 31 amounted to 73K tons, and afforded the average produce of 47 $\frac{1}{2}$  per cent. of lead, and a proportionate quantity of silver. Since the resumption of operations the whole of the details of the dressing-rooms have been remodelled; and these alterations, which have been effected at a very small expense, admit of the preparation of a much larger amount of ore than was formerly possible, whilst the cost per ton of doing so has been reduced very nearly one-half. The lead sold during the year ending June 30 commanded an average price of 23L. 3s. 6d. per ton; whilst that of silver was 5s. 6d. per ounce. The ores produced during the present month will, I trust, considerably exceed the estimate. The report and accounts were adopted. Col. David Hay, Mr. Peter Davy, and Mr. Jas. Walker were appointed assessors or assistant members of administration. Col. M. C. Chase and Mr. A. S. Wildy were re-elected auditors. The sum of 3500 thalers per annum, at present awarded to the members of the council of administration, was increased to 5600 thalers per annum. The meeting was then made special, and resolutions passed for raising 30,000. upon mortgage debentures. Votes of thanks to Chairman and officers of the company terminated the proceedings.

A meeting of the Imperial Brazilian Mining Association directors and committee of shareholders was held on Thursday, when it was resolved to recommend the shareholders, at the meeting convened for Thursday next, to accept an offer of \$3,000,000. for the purchase of the whole of the company's property in the Brazil. The slaves, of course, go along with the rest of the property. Of the purchase-money, 10,000. is to be paid down at once, as a guarantee of the serious intentions of the buyer, and the rest in bills at sixty days; but as the requisite arrangements, including a transfer to the Brasil, will involve considerable delay, it is thought that the purchase money will not be actually divisible amongst the shareholders for some six months to come. Apparently, the carrying out of the arrangement should ensure to the shareholders a return of about 3s. per share, for the total number of shares is 10,000. of which, we believe, 500 have been forfeited. A consideration of the heavy expenses to which the company are at present liable is understood to have contributed to the decision of the directors and committee.

At the Worthing Mining Company meeting, on Wednesday, called for the election of an additional director, in consequence of an insufficiency in the attendance of shareholders, no business was transacted, and the proceedings were adjourned until Wednesday next.

The New Grand Duchy of Baden Mining Company have advised from Brazil:—Morro Velho, July 15.—The produce for June is 18,384 oits. = 176,614 lbs. troy and is thus derived:—Oits. Tons per ton. Oits. per ton. From general stamps..... 15,970 ..... from 6484. 2s. 2d. 2,509. " Susanna (E. Que. Panela) 922 ..... 203. 6 = 3,983 " 2,509. " Arrastras 922 ..... 203. 6 = 3,983 " 2,509. " Praia 600 ..... — Total 18,384 ..... 1,690. 4 = 2,637 Cost. 7886. 12s. 11d. —Loss. 1761. 14s. 7d.

The stone has been not only deficient in quantity, so that considerably less has been stamped, but has been also much poorer; but I trust we have seen the worst of it, and that after another month I shall be able to make a very different report.

**REDUCTION DEPARTMENT.**—Stamps working 30 days, average 130-37 heads; arrastras worked each 24-37 days. In my last I noticed the short supply of stone; and this continued during the last division of the month, so that only 5690 tons were stamped during the whole month; and of these 165 tons were brought in from the old refuse heap, while 22 tons of the worst killas were thrown out. But the stone is also poorer, as shown as well by the assays as by the results of the treatment; and, therefore, the consequence of both combined is that the produce is the extreme low one above noted. And though I trust we shall have an improvement in this month (July), it cannot be to any great extent, because the same short supply of stone has continued up to date, and the Lyons stampa have done no duty, as, taking advantage of the short supply, they have been undergoing extensive repairs, of which they stand in great need. One side went to work again on Saturday last and the other the day before yesterday, and they are working very well. Both the Powles and Addison stampa stand in need of repair, which shall be done during the present slack time, and then they will all be in capital order when we get again a full supply of stone from the mines.

**PRAIA.**—There is very little to be added to what was said in my last. The Illingworth stampa continues to work very satisfactorily, and the produce for the month (600 oits.) is very fair. In consequence of the demands of the mine, and of heavy repairs at the Barron and other stampa, very little has been done to the second set of stampa; but, as soon as these are repaired, indeed indispensable, works are done with no time shall be lost in pushing forward the second set. For the same cause the launders for the sand are not yet completed quite to the stampa, when they would be self-feeding, and save the manual labour now required to collect and convey the sand from the rego.

**MINE.**—Since my last the different works have been going on steadily and rapidly, without any interruption. On the 24 current, while the men were underground dropping the sinking lift at the Bahn, some alarm was caused by a noise of ground coming away, but no harm was done: by the 10th several pieces of timber had been put in, and all made secure. On the 11th the water was drained and the Bahn in fork.

Gold extracted to date, 5300 oits. being 5101 oits. from 445 cubic feet of sand (the result of 10 days' stamping), yielding 11,330 per cubic foot, and from 1854 tons of stone, equal to 2706 oits. per ton; and 208 oits. from the Praia.

**REDUCTION DEPARTMENT.**—Stamps working 20 days, average 105-30 heads. It will be seen from the figures above that the yield per ton of stone is a little greater than that of last month, though the stone is still very poor. The assays for the second division of the month show in the ton of stone, per general produce, 4-210 oits.; west and middle eschobira, at Herring stampa, 5-230 oits.; East Quebec Panela, at Susanna stampa, 9-061 oits. Since my last there has been a stoppage of 14 hours, owing to the water being turned off from the Criostos rego, that it might be cleaned and thoroughly repaired; and advantage was taken to make extensive repairs at Powles and Addison stampa, and to clean out all the wheel-pits. It was a good time to do this, as the supply of stone still being short, the stampa, by being driven at a greater speed, could easily overtake any accumulation of stone during the stoppage. A few heads of the Lyon and Herring began to work after seven hours.

**PRALA.**—The produce maintains about the same rate. The preparations for the erection of the second set of stampa are proceeding but slowly, and must do so till the mechanism (smiths particularly) are free from the pressure upon them for mine work.

**MINE.**—The supply of stone is still short, as it can only come from those parts of the mine where, from less freedom for working, a borer cannot quarry so much stone as in the wider parts, and the quality is also inferior. There has been lately a change in part of the stone in the Bahn, showing a greater admixture of arsenical pyrites, which is considered favourable, as where such occurs more gold has also generally been found present.

Schneider's inclined plane is fast advancing to completion; in a week more it will be out of hand, and then we shall do better, I hope, both as to quantity and quality of tone. Several pillars of wood have been put in, and one of masonry is in hand.

The Wildberg Great Consolidated Mining Company have advised from Capt. Z. Walle, dated Sept. 5:—We have broken from the mine, sent to surface, dressed, and sampled to the smelting-works, 1533 $\frac{1}{2}$  tons of silver-lead ore, of 48 per cent. produce, for August month. If we are able to carry on the work in a proper manner, I think we shall raise 110 tons for the present month, but I am sorry to say that Nos. 1 and 2 sinks in the Urmbrucks level are at this moment drowned; and consequently, 26 miners who should be working on the best course of ore in the mine are now idle. I have no doubt but that this water is coming down from the surface, and shall ascertain this without delay. In conclusion, I beg to inform you that, although our ore raising for the past month was so good, yet our average number of men did not exceed 50, 20 of whom were employed on dead ground.

The Liberty Mining Company of Virginia have received advices from Mr. Conquest, and in that dated Aug. 14 he states:—"Since my last I have deposited 48 ots., 19 dwts. of refined gold at the bank;" and in a subsequent letter Mr. Conquest observes:—"We are doing very well, considering our exceedingly small force (19 men and boys only). We were sadly hindered last week by the heavy rains, or I should have had another bar of gold ready for deposit. I shall, however, be enabled to do so in a day or two, which will be \$1000 in three weeks. We are much improving, unaided by any chemical process whatever. I am sure I shall make this mine pay, if only properly sustained, and hope to prove it to the satisfaction of the shareholders."

The Australian Mining Company sold, at Swansea, on the 8th inst., a small parcel of copper ore, from their new property at Charlton, near Mount Remarkable, at from 30. to 34. per ton; its produce varying from 25 $\frac{1}{2}$  to 30 per cent.

The Chancellsorville Company's works, we are authorised to state, will be in full operation, on the extended scale of reduction, by, at the latest, the end of the present month.

We are informed that the negotiations for the disposal of the property of the Imperial Brazilian Mining Association are proceeding satisfactorily, but it is expected the forthcoming meeting must be again adjourned. The last Brazilian mail arrived ten days before due.

In Foreign Mines, with the exception of St. John del Rey, the market has shown a decided improvement. Imperial Brazilian were dealt in yesterday at 1 $\frac{1}{2}$ ; Cores Copper have fully maintained the recent improvement; Linares, Royal Santiago, and United Mexican, have been rather higher.

Our Hull correspondents (Massa, T. W. Flint and Co.) report that, although the demand for money continues unabated, railway shares maintain their prices very firmly, owing chiefly to the improving position, generally speaking, of the various lines, and the increasing disposition on the part of the public to invest in them. Should the Indian news be satisfactory, we look for a considerable improvement in shares and Consols.

Our Sheffield correspondent (Mr. George Wilson) reports that the mining share market has been very firm during the last week, particularly in Eym and Chapel Dale shares, the former having been done at 59, with further buyers at the price, and the latter have exchanged hands several times at 52. 1s. 6d. prem. The quotations are as follow:—Brightside and Froggatt Grove, 4 $\frac{1}{2}$  to 4 $\frac{1}{4}$ ; Craftman, 1 $\frac{1}{2}$  to 1 $\frac{1}{4}$ ; Eym, 50 to 61; North Derbyshire, 2 to 2 $\frac{1}{2}$ ; Peak United, 2 to 2 $\frac{1}{2}$ ; and Prince of Wales in the deepest part of the mine has been received.

The cause of the decline of mining property is, I think, that few mines were held here five years ago, except the Reeth Consols, which was a Leeds mine; it has been working upwards of 20 years, and is only now beginning to pay, after expending thousands. One or two gentlemen held shares in Cornish mines, which paid well. A lead mine or two in the North were partly worked by Leeds proprietors, which paid well. A gentleman came down from London who sold many shares in Mervyn Consols and West Phoenix, and another sold a great many shares in a Devonshire mine, all of which only made calls. Then came the Pencorse Mine was brought to Leeds, and run up to a great premium, by which many parties ignorant of mining suffered; this mine has made continuous calls, and is down in price. Then came out two other mines—Wheat Proctor and Wheat James; these were ruined by the failure of the purser, and another mine got into difficulties by the proprietors quarrelling and disputing. In the meantime, Yorkshiremen began to open their eyes, and their mines were soon taken up—Craven Moor, Yorkshire Mining Company, Providence, Great Northern, Wensley Dale, Victoria, Merrifield, and now Hevellyn and Wheal Henry, the two latter in Cumberland, so that there is variety enough, certainly. Not one of these has ever paid sixpence dividend, except the Craven Moor, and that paid 10d. dividend, but issued fresh shares to five times that amount, rather than make a call. These have created a distrust. There are also large holders in Wood Mine, Molland, and several Welsh mines—Gwynedd, Carn Brea, Vale of Towy, and Foxdale Mines, besides a few holders in Derbyshire. If any one of the mines should become rich, it would soon make confidence return again, and business would be done readily. It is believed most of the mines are good ones, if they could be properly tried, but twice too many have been brought into the market before one paid dividends.

In the Welsh Potosi Mine Company, on Thursday, Mr. Commissioner Fane, of the Bankruptcy Court, made a call of 17. per share on 12,000 shares, with liberty to appeal. A lengthened discussion ensued as to the parties who ought to be contributors, and by which it appeared that several of the shares had been transferred to men of straw; but the Commissioner intimated that the original holders would be liable.

At the Penzance County Court, an action was brought by Mr. William Norton, Penzance, ironmonger, to recover 21L. 3s. 1d. from defendant, Mr. John Fisher, 7, Dover-place, New Kent-road, London, for goods supplied to North Ding Dong, in which he was alleged to be an adventurer, and his shares in which had been assigned to him by Mr. Hodson, wine merchant, in payment of a bill. The evidence not being sufficient to fix Mr. Fisher's liability, the plaintiff was nonsuited.

An action for libel has been commenced against the directors of the Unity Fire Association by Mr. T. H. Baylis, their late manager, in reference to a passage in their last report, published during his absence in Australia, which he considers to have contained a reflection on his character.

It is said that Mr. Cockopp and the other directors of the Royal Surrey Guards Company have made an offer in writing to resign, provided that the names of five other gentlemen willing to undertake the management of the company's affairs be submitted to them. The object of Mr. Cockopp and his conditors is apparently to avoid the risk of continued collision with the shareholders.

#### ANOTHER FATAL EXPLOSION—SEVEN LIVES LOST.

**WOLVERHAMPTON.**—Yesterday morning, at about half-past 8 o'clock, there occurred another of those fearful accidents which have lately occupied so much of the public attention, and which are the scandal of British coal mining. At that time an immense quantity of sulphur was ignited, in a notoriously fiery pit at the Gawn Colliery, under one of the Rowley Hills, the property of Messrs. Mills and Sons, who own also an adjoining pit, where last April, when it was being driven out, two lives were lost by an explosion, and other persons injured. This accident has resulted in the death of six men and a boy, and has occasioned the supposed fatal injury of two other men, who, when we were upon the spot this afternoon, were more dead than alive. At that time, also (about 4 o'clock), a large number of workmen were engaged in endeavouring to get through some 50 tons of stuff to the body of the seventh deceased, whose whereabouts was indicated by one of the two survivors, who himself was buried alive from the time of the explosion till midnight on Thursday, being miraculously preserved by a beam falling across, at such an elevation as just to save him from being crushed by the superincumbent mass.

This pit is divided into two workings—the more advanced called the Down side, and the other the Crop side. In the Crop side sulphur was found on Monday morning, and supposed to have been brought there by a fall of coal, and the entrance was forbIDDEN. It was proved to exist on Thursday morning, and the butties forbade an entrance. They had scarcely ascended, however, when the earth, in a circle of a quarter of a mile, shook violently, and flames shot up the shaft of the coal pit, and also of the stone pit adjoining, the separation between the two being blown down by the explosion. A doggy is supposed to have gone into the prohibited workings, with two other men, one carrying a naked light. The Mine Inspector (Mr. Brough) was busy upon the spot yesterday, and had before legally cautioned the proprietors.

This is the third fatal explosion in the last month, and the fourth in the year. The Illingworth stampa continues to work very satisfactorily, and the produce for the month (600 oits.) is very fair.

**REDUCTION DEPARTMENT.**—In consequence of the demands of the mine, and of heavy repairs at the Barron and other stampa, very little has been done to the second set of stampa; but, as soon as these are repaired, indeed indispensable, works are done with no time shall be lost in pushing forward the second set. For the same cause the launders for the sand are not yet completed quite to the stampa, when they would be self-feeding, and save the manual labour now required to collect and convey the sand from the rego.

**MINE.**—There is very little to be added to what was said in my last. The Illingworth stampa continues to work very satisfactorily, and the produce for the month (600 oits.) is very fair. In consequence of the demands of the mine, and of heavy

repairs at the Barron and other stampa, very little has been done to the second set of stampa; but, as soon as these are repaired, indeed indispensable, works are done with no time shall be lost in pushing forward the second set. For the same cause the launders for the sand are not yet completed quite to the stampa, when they would be self-feeding, and save the manual labour now required to collect and convey the sand from the rego.

**PRALA.**—The produce maintains about the same rate. The preparations for the erection of the second set of stampa are proceeding but slowly, and must do so till the mechanism (smiths particularly) are free from the pressure upon them for mine work.

**MINE.**—The supply of stone is still short, as it can only come from those parts of the mine where, from less freedom for working, a borer cannot quarry so much stone as in the wider parts, and the quality is also inferior. There has been lately a change in part of the stone in the Bahn, showing a greater admixture of arsenical pyrites, which is considered favourable, as where such occurs more gold has also generally been found present.

Schneider's inclined plane is fast advancing to completion; in a week more it will be out of hand, and then we shall do better, I hope, both as to quantity and quality of tone. Several pillars of wood have been put in, and one of masonry is in hand.

The Wildberg Great Consolidated Mining Company have advised from Capt. Z. Walle, dated Sept. 5:—We have broken from the mine, sent to surface, dressed, and sampled to the smelting-works, 1533 $\frac{1}{2}$  tons of silver-lead ore, of 48 per cent. produce, for August month. If we are able to carry on the work in a proper manner, I think we shall raise 110 tons for the present month, but I am sorry to say that Nos. 1 and 2 sinks in the Urmbrucks level are at this moment drowned; and consequently, 26 miners who should be working on the best course of ore in the mine are now idle. I have no doubt but that this water is coming down from the surface, and shall ascertain this without delay. In conclusion, I beg to inform you that, although our ore raising for the past month was so good, yet our average number of men did not exceed 50, 20 of whom were employed on dead ground.

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**NOTICES TO CORRESPONDENTS.**

•• Much inconvenience has arisen, in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be regularly filed on receipt: it then forms an accumulating useful work of reference.

**FAIR QUOTATIONS.**—Can any of your correspondents inform me why West Polberro shares are quoted in your valuable Journal at 2s. (business done)? I know, Sir, that you are desirous of obtaining correct information, and are constantly soliciting for such. From whatever source you received your information, it is decidedly wrong. Upwards of 2000 shares were relinquished at the last meeting, in favour of the present company, at 2s. 6d. per share (see your Journal of Aug. 1). I assure you, Sir, that 2s. per share cannot be obtained at the present time; therefore, such wide discrepancy should be corrected. There are many hundred persons who used to treat mining matters carelessly, but who now read your Journal, and may be misled by such quotations being imposed on you. I trust, Sir, you will either alter the quotation to 2s., or publish this letter.—ONE WHO RELINQUISHED, BUT HAS NOT YET RECEIVED THE 2s. 6d.: Sept. 10.

**TELEGRAMS.**—With great alarm I notice that a marked improvement has taken place in the 35 fm. level. I trust this is not a prelude to a further fall, as hitherto has generally been the case.—H. D.: Bedford-square, Sept. 10.

**MINES AND THEATRES.**—Though I cannot acquiesce in Mr. Commissioner Bonhag's assertion, that those who have anything to do with mines or theatres will be ruined, yet a certain analogy exists between the two. In many places, the localities for both are bad, and not likely under any circumstances ever to afford a profitable return. Large fortunes have been acquired by mining, and the same may be observed of theatres—in both cases, when this has occurred, it has been under good management, and by practical people, who were educated for the purpose, and understood their business. In most instances where failures can be traced, it arises from the choice of a spot whence nothing is to be obtained, or the appointment of a manager who has no knowledge of that which he undertakes, but possesses a considerable proportion of ignorance, backed up by an excessive stock of impudence. There are numbers of men who dub themselves miners, who have never been educated for the purpose—probably they have been brought up as cobblers, tailors, house-painters, or carpenters. Some of these mechanics have, even, in the shape of lecturers, styled themselves instructors of the people, being in many instances less informed than the audiences they were addressing. The same remarks may apply to theatres: these in general have been ruined by bad management and incompetent superintendence. So it is in all trades and professions: they must go wrong unless there is "the right man in the right place."—T. E.: Sept. 8.

**EAST WHEAL GEORGE.**—When this mine was first started, it was to have been one of the greatest gems of the neighbourhood, and I purchased some shares of one of the original holders. I regret that a meeting was held last February, since which period I have been in receipt of no reports of how we are proceeding. Occasionally, under the head of British Mines, a few lines appear from the agent; this is to a certain extent satisfactory, but I trust the committee will see the necessity of affording us further and more frequent information.—G. W.: Holloway, Sept. 9.

**GOLD MINING.**—Of all the Californian schemes, the only one that now exists is the Quartz Reduction Company, and in about two months they will hold their annual meeting. For the last year, they have been practically at work; and although somewhat retarded, an approximate result will no doubt be arrived at. The Australian companies have been tried in the balance, and found wanting; those for gold mining in North America have given no great results, although the Liberty and the Chanceryville promise much. As regards the latter company, we may shortly expect to hear what the quantity of stuff which they had lying on hand in Nov. 1855, has turned out. If Mr. Squires should find gold in North Wales sufficiently abundant, I trust that his experiment will be solved with less delay than heretofore has been the case with all the gold extractors, with the single exception of Mr. Hiram Berdan, who obtained gold from every ore that was brought to him, thus proving, though it might possibly be of no benefit to others it was to himself.—DIGGER, Sept. 8.

**RAILWAY SIGNALS.**—In your last Journal, I read a notice of a proposition for signalling upon railways by distance posts and levers; but, from the brief description given, the invention appears almost as old as railways themselves. Perhaps there may be some novelty in cutting off the steam of an approaching engine, but I fear that, in practice, this part of the invention would be found valueless, as so many circumstances would have to be provided for, that no single apparatus would answer. Automatons are very well in their place; but when they are introduced injudiciously, they are dangerous in the extreme, as the slightest failure in their action may lead to the most disastrous results. The system at present in use for signalling the approach of a train to a station is as simple as could be desired, as also is the contrivance by which the semaphore is raised when the train reaches the station. It would, however, be ridiculous to have such an arrangement as should cause the train to lower the semaphore when it had arrived at a certain distance beyond the station, as the signalmen would then, of course, cease to be employed, and the lives of the passengers would be at the peril of a self-acting instrument, which would always be liable to get out of order. As to shutting off the steam of the next engine that passed, as it would sometimes be necessary that the trains should be much nearer together than at others; and should the signal-posts be placed near enough together to meet all cases, the cost would be immense. I was glad to observe that the inventor anticipated difficulty in introducing his scheme, as it will prevent any disappointment on his part, should my opinion prove correct—that the invention is far from being of practical utility, or capable of application, except under extraordinary circumstances. As all inventors should be rewarded for their ingenuity, I trust the improved signaller may meet with more success than he expects, although I doubt whether he will, from the mystery with which he endeavours to surround his discovery.—M. BURTON, Esq.: Gt. Brit., Sept. 7.

**COPPER MINING IN SPAIN.**—I can bear testimony to the accuracy of your correspondent's communication of the quantity of copper ore to be found in several of the provinces of Spain. There is, however, one grand objection to mining enterprise in that country, which is the general bad condition of the roads. In many parts of the kingdom they are but mere mule tracks, and during the rainy season almost impassable. There are numbers of "holidays of obligation;" and lastly, there is the excessive fanaticism and bigotry of the people, combined with a great jealousy of foreigners, and the Puranic faith, which has now become a national and characteristic trait of the Spanish nation. In my opinion, there are greater difficulties in mining in Spain than in any other country of Europe, as, in addition to the debased ignorance of the population, every agent would have to encounter the haughty pride and the capacious arrogance of one of the fifth generations under the canopy of heaven.—G. : Sept. 7.

**SAFETY LAMPS.**—Several of the Government Mine Inspectors state that locked safety lamps alone should be used where there is any chance of explosion from fire-damp, and recommend that the key should only be entrusted to the lampman; but as, if only a key is required, there is a good chance of the lamp being opened, why do not the Government enforce the use of lamps which cannot be opened without extinguishing the light, and for which no key whatever is required? I have read in your valuable Journal several notices of inventions which have this excellent provision—amongst others, those of Dubrilla, Munier, and Mosard, appear suitable for all purposes, and either could be supplied extremely cheap. The objection to the use of glass, on the ground that it is liable to be broken, is now entirely refuted by Mr. Washington Smyth's assertion, inserted in your last, that of the 18,000 in daily use in Belgium, not one explosion had ever been traced to the breaking of a glass.—C. F. W.: Horion, Sept. 7.

**MINE SOUNDING INSTRUMENT.**—We never saw or heard of such an instrument as our inquirer desires us to obtain for him. There can be no doubt but such an article could be constructed by any manufacturer of acoustic instruments. We are aware sounds may be heard underground for long distances when the wall of a lode is struck; he have repeatedly heard miners at work when they have been far away; the signal usually given to miners by blows it is well known can be heard. We see the utility of the article, and should suppose, if a flexible or trumpet-mouthed bar of metal be laid on the wall of the lode, with a hollow tube, in the manner of a stethoscope, having connection with a large hollow ball by way of tympanum, with an earpiece, would answer the purpose. The experiment is worth a trial; and should our applicant avail himself of our suggestion, we shall be obliged if he will inform us of the result; or, if he will commission us to get one made, we will gladly undertake the supervision of the work, which, probably, may be more useful than at first supposed.

**BURRACO ACCORD MINING COMPANY.**—"J. T." (Glasgow).—The whole of the shares in this adventure were taken up pro rata by the shareholders in the Scottish Australian Investment Company. The property adjoins the Burra Burra Mines.

**COLLIERY INSPECTION.**—In Mr. Herbert Mackworth's report I observe that there is recorded an example of the self-sacrifice of colliers in attempting to rescue their fellow-workmen in the face of the most appalling dangers. Alluding to an explosion at Chalbrook Vale, he says—"The force of the explosion having damaged the framing and carriage at the top of the downcast shaft, a considerable time elapsed before any person could descend. In the meantime, the friends of the men in the pit pressed Hopkins Lewis, the fireman, to descend the upcast pit, by which the fire-damp was leaning; he replied, 'If I go down, I shall never come up alive'; but, nevertheless, after shaking hands with the persons about the pit, he descended for four other men. Two returned shortly after, and two others were with difficulty rescued, but Hopkins Lewis, having gone far in advance, was not extricated for an hour and a half, when he was found to be quite dead. Such acts as these, as Mr. Mackworth observes, should be rewarded, and were there more interest felt in this class of workmen, there is little doubt that their increased exertions would tend to diminish the number of accidents of every description.—H. J.: Gloucester, Sept. 7.

**MEXICAN AND SOUTH AMERICAN SMELTING COMPANY.**—Can any of your readers explain what is the matter with this company? I see that the 10s. shares have been done on the Stock Exchange so low as 1s. 6d. The annual general meeting ought to have been held before this, and yet no notice has appeared. Surely the shareholders have a right to expect that gentlemen like Mr. Powles and Mr. Schneider, who are on the direction, would immediately call them together, and explain matters.—A SHAREHOLDER.

**NORTH DOWNS MINE.**—No improvement in this mine was reported in the City Article of the *Mining Journal* of Aug. 29. We merely stated—"North Downs shares suddenly rose from 2s. to 1s., 1s., from which it is presumed an improvement has taken place. Shares, it is said, have mostly been purchased for the county." By the report in the usual column this week, it will be seen that the mine is now improved, and it would not be surprising if the shares should rise in value, considering the districts in which the mines are situated, and carefully watched by parties resident in the neighbourhood.

**GREAT WHEAL VOR UNITED MINES.**—"An Old Subscriber" (Devonport).—It is fully expected that a call will be made at the meeting to be held on Wednesday next. Some of the shareholders suggested a call at the last meeting, as it was then considered impossible to go on without more capital.

"T. C. S. (Baker-street).—Sulphurite of nickel consists of nickel 64-76, sulphur 25-24, with traces of cobalt and arsenic. It occurs in capillary and sometimes diverging filaments of a yellowish colour, inclining to steel-grey. Its primary form is cubic, flexible, opaque, with a metallic lustre; not magnetic. Before the blowpipe on charcoal, with a good heat, it fuses into a globule, which is metallic, malleable, and magnetic, and consists wholly of nickel; but in the open tube it exhales the colour of sulphurous acid. With nitric acid it forms a greenish solution. It is found at Johannegeorgstadt in Saxony, at Joachimsthal in Bohemia, at Andreesberg in the Harz, in Cornwall, and other places, in thin capillary filaments, filling the cavities and dispersed among the crystals of other minerals.

**FALLACIES OF ADVERTISERS.**—We cannot publish the letter of "Parmer": he is far too sweeping in his condemnation, while the remedy he suggests is open to serious objection. His plan for checking abuse would, if adopted, become inoperative, and merely change the risk with the locality. There are some very respectable, well-informed mine agents in London, and a little enquiry is only needed to render dealing with them not only "safe," but "highly satisfactory."

**CLANMENON CONSOLIDATED MINING COMPANY OF JAMAICA.**—"A. F." (Sheffield).—The last half-yearly meeting of this company was fully reported in the *Mining Journal* of July 25. The cash balance in hand on June 30 was £6,071. 6s. 7d., and the principal question at the meeting was, whether they should wind-up at once, or raise more capital to prosecute the mine vigorously. Capt. A. Tregoning having been sent to Jamaica specially to report on the mine, and being of opinion it was worthy of a large additional outlay, the shareholders present expressed a wish to proceed, and a resolution was unanimously passed that additional capital, to the extent of 20,000*l.*, should be raised. The directors have since made a call of 2s. 6d. per share. It is intended to send out a large quantity of machinery; and we are informed that Messrs. John Taylor and Sons are consulted upon all important operations. Mining in Jamaica is only in its infancy.

**UNIVERSITY DECAY.**—There are, throughout England, numerous retail druggists, petty organisers in provincial towns, &c., who sport the Ph.D. which they have obtained from Erlangen or Giessen for 1*l.* Does your correspondent mean to say that a retail druggist has any right or title to be called a doctor of philosophy? To use the title is great presumption. Drs. Steinhause, Hofmann, and others, thinking the Ph.D. infra dig., have dropped it, and they proudly use in its stead LL.D. All true chemists will follow their example ere long.—B. : Sept. 8.

**CHANCELLORVILLE GOLD MINING ASSOCIATION.**—"A. Sufferer" will find an announcement in our City Article, which we have reason to believe will prove correct. Further information can be had at the office of the company.

**WHEAL EMMA.**—As there appears a sharp controversy going on with regard to this mine, I send, for the information of those connected with the adventure, some extracts from the report of Capt. S. Secombe, who examined the setts in Nov., 1855. Although Mr. Nicholas Ennor is now condemning the management of the mine, he recommended her to his friends when the shares were quoted at 15s. or 16s. per share in the *Mining Journal*. Mr. John Hitchins, who has the management of the mine, is a man of excellent judgement, and a more honest upright man there is not in Cornwall. To those who have shares, I say stick to them, and do not sacrifice your property. If this is not one of the best mines in Cornwall, I will admit that I know nothing of mining.—Old Miner: Exeter, Sept. 9.

"Nov. 5, 1855.—I have inspected Wheal Emma, and beg to furnish my report thereon. This mine is near Camborne, Devon, on the lands of the Earl of Macclesfield, and the granite obtained is the most favourable one I have ever heard of, the royalty, or due, being only 1-13th out of the profits realized. The extent of the setts is moderately large, being full 400 fms. long, from east to west, on the course of the lode, and the stratum is a light clay-slate, highly mineralized, and within a reasonable distance of the granite for the production of large deposits of copper ore. From the engine-shaft to the present end, which is about 30 fms., the lode is 10 ft. wide, composed of quartz, pyrite, gossan, and copper ore, worth full 50*l.* per fm. Rich parcels of copper ore are being prepared for the market, and the mine will shortly be in a position to pay large dividends.—S. SECOMBE.

**CHANCELLORVILLE GOLD WORKS.**—A short time since, Mr. Evan Hopkins stated that he had been requested by several shareholders to visit these works. Great anxiety is now being manifested by several of the proprietors as to the result of Mr. Harris's experiments. Since the publication in your Journal of the reduction of 7 tons of stuff, no further progress has been reported, although we were told there was abundance of quartz belonging to the company, which had lain there for a considerable period. Mr. Evan Hopkins is now, I understand, sojourning at Chester: he has had great experience in gold mining in South America and Australia, and probably would be able to afford some elucidation as to what I presume must be the inevitable delays which have taken place at the works at Frodsham. As he is so near, the expense of a report ought not to be taken into consideration, and the information so rendered will at this present time be of great utility to all interested.

**PHILOMELIA.**—(Camden Town, Sept. 10.)

**ALTO-CALIFORNIA GOLD MINING COMPANY.**—In the advertising columns of the last Journal, Mr. G. F. Goodman informs the shareholders that they must pay the contribution to the liquidators, this only being legal. The week previous, "P. F." of Poole, asks for subscriptions to resist that body; and in the same week, the Chairman of the late board calls upon the proprietors to come forward with 3s., stating that, if they do this, they will be guaranteed from all liabilities. No accounts are rendered by anyone, and the whole system is being carried out in its integrity. The cry is—"Pay, and ask no questions"; he satisfied that 100,000*l.* of your money has been spent somehow, and that debts have been incurred, which you must discharge. You have had two barristers and a solicitor among the directors, a solicitor is a liquidator, and these are the attorney of the company: surely, with all this legal array, the shareholders will obtain justice! When the scrip was allotted, it was stated that no further call would be made. I will not occupy your space by further entering into details concerning this mismanaged undertaking. Several of the proprietors are in the humbler classes of life, for the shares were sown broadcast in the provinces. How are they to act? It would be as well if some men of business and sound common sense would come forward and endeavour to extricate the company from the tangled mass of subtlety, contradiction, confusion, and chicanery, by which it is surrounded.—AN ORIGINAL SHAREHOLDER: Oxford, Sept. 9.

**MINES IN AMERICA.**—Our friends in America are informed that they can obtain the *Mining Journal* by ordering it from a bookseller in any of the principal towns in the United States. Mr. Trübner, of Paternoster-row, is the London agent, and sends parcels by every mail to the principal booksellers and news agents there.

copied. They will change titled directors for men who are competent to manage business transactions, and who from their station in society have greater reason to maintain an unblemished character. Under these circumstances none will, we think, deny that mining has better prospects than ever of becoming the most remunerative of all speculative undertakings, and one of the most desirable classes of enterprise for the investment of capital.

The affairs of the WELSH POTOSI MINING COMPANY occupied the attention of Mr. Commissioner FANE, at the Bankruptcy Court, on Thursday—the learned Commissioner having appointed that day for making a call, for the purpose of discharging the liabilities. The company was at the time of stopping divided into 12,600 shares, but the official assignee, after carefully going through the list, decided that there were only 12,000 shares liable to become contributories. It may be remembered that Mr. LORTHOUS, of Manchester, was connected with Mr. WILKINSON, the late manager, and during the proceedings it was endeavoured to show that they had acted together. Mr. HARRISON, the solicitor, stated that Mr. LORTHOUS had transferred the whole of his shares to a man named "SLACK," but whether such an individual existed he was unable to prove, as every letter and notice that had been sent to the address given had been returned; he (Mr. HARRISON) therefore contended that the name of Mr. LORTHOUS, should be substituted for SLACK. The Commissioner was of opinion that further enquiry should be made for SLACK, and additional evidence adduced, before he decided upon making LORTHOUS liable. From the length of the list of unfortunate shareholders the case occupied a considerable time, and at the conclusion a call of 17 per share was made on 12,000 shares. As we are informed the liabilities are under £60,000, either a large number of defaulters are calculated on, or a considerable sum required for the law proceedings in winding-up.

A leading daily contemporary, in its City Article of Friday last, takes precisely the same view of the disasters arising from banking speculations we have long held to mining, and which we have often expressed in our columns—viz., the fashion of the hour—the tendency there always is to dash headlong into investments, for no other reason than following example. This headlong impetus becomes irresistible, until the self-accumulating monstrosity attains proportions alarming to its creators; then reaction as violent ensues; all are as anxious to get rid of the responsibilities they have incurred as they previously were to undertake them. This has been, and probably will be, more or less the history of all investments holding out brilliant hopes of success, and to which probability is attached by one paying handsome dividends—whether real or fictitious, is hardly heeded by the anxious multitude. Of such have been South Sea bubbles, railways, gold schemes, shipping, mining, banking, &c.: these have all their periodical manias.

Though these periodical panics may be looked on at the times of their recurrence as misfortunes to be deplored, yet, if properly considered, we should deem them as necessary in the atmosphere of every-day business as thunder-storms in summer: they certainly tend to remove many evils, which a long-continued state of carelessness or reckless trading naturally beget: the commercial horizon, after the dispersion of so many noxious elements, becomes much clearer, and adapted for healthy, vigorous exertion.

Probably at no period of English history has the stability of our great institutions, our national resources, and our speculative interests been so severely scrutinised and thoroughly tested as during the last ten or twelve years, from various political and commercial causes, as well as by deficient crops and high prices.

Hats of visionary Utopian undertakings have been scattered to the winds, numbers of unprincipled adventurers have been unmasted, exposed, and punished, to the great benefit of the world at large, to demonstration, to proof, that England's great integral interests, as well commercial as national, are sound to the core, presenting a vigour no misfortune can crush, and a vitality nothing can destroy. It must also not be forgotten that in those wholesale condemnations, those avalanches of ruin, many honestly conceived, really good and legitimate undertakings, have been overtaken and overwhelmed, without the power or possibility of resistance: so impetuous was the torrent, that scarcely a wreck was left by which to recognise their former apparent greatness.

France at this time is undergoing one of these terrible throes, brought on solely by such wild, visionary schemes of personal aggrandisement and realization of incalculable wealth: the precipitate reaction now taking place will foreshadow the disastrous consequences which must necessarily ensue. It would be well were they to reflect on example, and act accordingly; but we fear no advice or warning under such circumstances will be heeded: onward as ever will rush the frightened parties, without consideration or thought. At the time of the establishment of the ill-considered scheme of the Credit Mobilier, we saw the utter hopelessness and impossibility of its ultimate success, and accordingly warned our readers against having anything to do with such, to say the least, doubtful affairs as it, Russian or Austrian railway concessions or loans, and the numerous foreign schemes at the time launched in such numbers, and which were in a great measure checked in this country by the judicious conduct of the Bank of England. We now find we were perfectly correct in our surmises, and rejoice to think our countrymen will be so little embroiled in our neighbour's disaster; still from such causes the French people have nothing seriously to alarm them, more than a temporary and, perhaps, severe check to their monetary affairs; their trading and commercial relations are undoubtedly sound. Little doubt can exist will prove one of those salutary lessons even nations are occasionally, or some wise end, obliged to undergo.

We should ourselves profit by their present and our past experience, not to rush wildly into any new-fangled speculations, however attractive, merely because we see our fellows doing so, but to rather prefer those which have undergone the fiery ordeal of scrutiny, such as the last twelve years have afforded, and have come out scatheless. We know of no interest so thoroughly answering these conditions, both past and prospective, as legitimate British mining enterprises, for which a glorious vista in the annals of time seems to be opening out. We state this in the full conviction that our opinions on this subject are as well founded, and will be found to be as correct, as those which dictated our condemnation of the Credit Mobilier on its announcement.

Gratifying as must be the accounts from our mining districts—gratifying as must be the accounts from the manufacturing and consuming districts for metals—it is equally gratifying to us to know these results are precisely as we had anticipated. The careful and attentive reader of the MINING JOURNAL cannot have failed to notice our frequently referred to warning, that metals must and would advance in value—that many of the progressive miners were so far developed that it would be insane folly and ruinous waste of capital to stop or curtail their operations, assured, we were by their managers, a little more patience and capital were all that was required. We implored and urged the payment of calls, to enable these projects to be carried out with integrity. We are, therefore, glad to project the mines, by their recent numerous and important discoveries, not only confirm the reality of our hopes, but inspire a confidence which will induce others to take heart, and follow the example.

Hardfoot and Holmbush are cases in point, while more recent accounts from various localities are of the most cheering description. Kelly, Wheal Edward, East Russell, Queen of Dart, Waenlas, Lampydfil, Day United, Great Hewas—indeed from all parts—the news is highly gratifying, and most encouraging. The dividends declared during August amount to no less than 38,604—a respectable sum for one month certainly, and this only from metallic mines, exclusive of the iron, coal, salt and clay works, which probably amount to five times that sum, irrespective of the employment they create for miners and labourers of all sorts, including sailors.

The fact of the Devon Great Consols advertising no less than 2222 tons copper ore (more than the entire produce of the three kingdoms a few years ago) at one sale; of Dolcoath, although working continuously for more than a century, having made a discovery of tin to the value of, possibly, a million sterling, are evidences of the perfectly inexhaustible resources of mining, if properly developed, and are proofs, if any were required, of the substantiality of these securities.

The demand for their produce shows no sign of weakness; that (erroneously true) barometer, the copper standard, is gradually rising; large quantities are in the market, larger in reserve, and hourly expected to be taken out; while the unwillingness of the smelters, both of copper and tin, to undertake contracts, are certain indications of continued prosperity.

"All have they done who, heeding our advice, purchased these metals when they were temporarily depressed. We at the time felt convinced

nions. We ever held the conviction that British mining interests were never in a sounder position, or one more worthy the confidence of the public. Freed, as they assuredly are, of most of the spurious speculations palmed off as mines, and being now so well known in contradistinction to foreign gold bubbles, called mining companies, it will be found they will advance considerably in public estimation, and prices enhance accordingly, despite the ill-mannered, injudicious, and, we hope, ignorant remarks of a judicial functionary, alluded to last week, who, whatever might have been his private opinion, should have had wisdom enough under his wig to have been silent on them. We doubt, after such intemperate remarks, if a person inquiring under difficulties, and embarked in such affairs, would not be able to show good grounds why a judge expressing such a bias should not adjudicate in his case. Justice should be blind and even-handed, which cannot be where private pique or disappointed hopes are allowed to interfere. It will be astonishing to us if the poor actor, too, does not eke out his revenge, and place the worthy on the stage in this extraordinary and unfavourable view.

We think the prior part of this article is convincing enough to stultify such foolish (thoughtless, we hope) assertions. We can assure him, and our readers too, there are many as honourable men in mining as grace the ranks of any sphere of life, including in its interests the names of all classes, from royalty itself (the Crown and Duchy being some of the largest), down to the adventurer and hard working tributaries, who, though humble in their vocations, are not bad judges of mining.

In the MINING JOURNAL of last week we published an abstract of the reports of the Government Inspectors of Coal Mines, which showed that during 1856 the number of accidents from all causes amounted to 1023. About 40 per cent. of these casualties occurred from falls of roof and coal, 23 per cent. from explosions, 20 per cent. from accidents in shafts, and 17 per cent. from various descriptions of accident. From this it would appear that the working of the Coal Mines Inspection Act has been highly satisfactory; and as the proportion of deaths from explosion has now, notwithstanding two or three very disastrous occurrences, been brought below that of the deaths from falls of roof, and is but 3 per cent. higher than the deaths in shafts, we may anticipate that the improvements in the system of working, and the elevation of the colliers in an educational point of view, will ere long render mining little more dangerous than other mechanical occupations.

The importance of the information contained in the reports is very great, as it affords a ready aid both to scientific and practical men to attempt improvement in the direction where it is most required. Forty per cent. of the total accidents have arisen from falls of roof and coal, and in some instances the casualties of this class have even exceeded the number which happened in previous years, whilst in few districts have they materially diminished. Much necessarily depends upon the care and attention of the colliers themselves, and no material diminution can be hoped for while the same amount of recklessness as at present exists continues, whatever steps may be taken by the masters. It is, however, very probable that by improvements in mechanical appliances greater safety might be secured, and by strict supervision the general and special rules of every colliery may be enforced to an extent which would be highly beneficial.

With respect to explosions, much has been done in the way of providing efficient safety-lamps, all that is required being their general adoption in all collieries in which fire-damp is known to exist. From the remarks of Mr. WASHINGTON SMYTH, with reference to the MUSSELIER lamp, it is evident that the objections made to the use of glass lamps are altogether without foundation, and by the use of the inventions of DUBUILLÉ, MOLARD, or MUNIER, all tampering with the lamp while in the colliers' hands is entirely prevented—it being impossible to open either of these lamps without extinguishing the flame. Light has hitherto been the great inducement to the collier to remove the top from his lamp, but all lamps of the MUSSELIER class give considerably more light than a candle, and therefore such an objection on the part of the collier should be unheeded. In his report, Mr. MACKWORTH states that no very destructive explosion has ever occurred even from a defective lamp; that the cost of providing, maintaining, and superintending safety-lamps to the owner is about three farthings per ton of coal, and that 3d. per ton would amply compensate the collier for any possible loss of time or work that might arise from their use; so that there is comparatively nothing to prevent their immediate introduction.

The loss of life from accidents in shafts may be considered of a very preventable character, as the majority of them may be traced to carelessness or recklessness on the part of the sufferers themselves. Upon this subject Mr. WYNNE remarks that "the loss of life in shafts has been great—much too great, and is mainly owing to the old-fashioned method of landing coals at the top of the pit by wagon or 'runner,' instead of having guides and catches, which allow of a large portion of the pit being covered at all times." He finds that "few lose their lives by falling down shafts where guides and cages are used." From this it is evident, that by adopting only the best known contrivances the casualties may be considerably diminished. As Mr. WYNNE reports there is a general disposition in his district to carry out practical suggestions, we may presume that in other districts a somewhat similar feeling prevails; and, therefore, the accidents in shafts will as materially decrease as the explosions hitherto.

From a most extravagant economy it was thought by some, previous to the passing of the Coal Mines Inspection Act, that, to a certain extent, the carelessness of the employed increased the profit of the employer, owing to an apparently larger return for a given expenditure; but, happily, the effect of the bill, and the exertions of those entrusted to carry it out, are rapidly dispelling these false notions. We regret to find that there are still some who hold their old opinions, and that foremost in the rank of these anti-reformers is Mr. HEATHCOTE, of Apedale, who, although a county magistrate, sets the law at defiance, abuses the Government Inspector, and compels him to refer to his conduct in his official report.

The amelioration of the condition of the collier is confidently anticipated, from the fact of a more intelligent class of butties taking the place of the ignorant and reckless ones who formerly held office, and it is to be hoped that increased intelligence at Apedale will cause the Inspection Act to be, in future, better observed.

In our last Journal we briefly alluded to the objections of Sir JAMES ELPHINSTONE to iron ships: in his opinion they are less secure than those constructed of wood. In a subsequent communication he states, that if it had not been for the peculiar circumstances, and the ready means of obtaining all the requisite engineering appliances, it might have fared differently with both the *Great Britain* and the *Tyne*; he further alludes to the *Birkenhead* and the unlucky *Tranent*. This last vessel we will by no means accept as a type of what iron ships should be; her defects have been pointed out, her mishaps are a matter of history; the authorities were told she was not seaworthy; her disasters ought to have taught them that, in the face of public condemnation, she ought not to have been employed; she was, however, a pet of the Admiralty. Sir C. Wood was determined to convince every one they were wrong; and, despite protests and warnings, dispatched her to sea: the sequel we are all acquainted with, and unless revived by some pertinacious Member in the ensuing session, the probability is that we have heard the last of the wretched *Tranent*. The superiority of iron vessels has been generally acknowledged; some of them have made extraordinary passages, and we need only allude to the work which was performed during the late war by the *Himalaya*: this, however, it must be remembered, was only purchased by the Admiralty in their need, and therefore whatever credit is due to her, there is none redounds on the gentlemen who sit in Whitehall.

If iron ships are so defective as Sir JAMES ELPHINSTONE would lead us to imagine, it appears but a sorry fate awaits the *Great Eastern* mammoth ship, about to be launched in the ensuing month; her enormous machinery and capabilities will avail but little, and this monster will be liable to greater casualties than any ship constructed of timber. If Sir J. ELPHINSTONE's premises are correct, the engineering skill of Messrs. BRUNEL and SCOTT RUSSELL, backed as it has been by the British Association, will only result in a costly and stupendous experiment to risk life and property.

We have no such gloomy forebodings. In the majority of cases where iron ships have been lost it has mainly been owing to their defective construction, and the inferior material of which they were composed. Instead of our ironmasters having devoted their attention to this important branch of industry, and furnished the best metal for the purpose, it has been completely neglected, and hence the inequality of the plates which in many instances have been observed in these vessels.

Mr. JOHN CLARK, jun., of Liverpool, who has devoted great attention to this subject, and whose communications we have occasionally drawn

attention to, has now prepared a working model, 5 feet long, by which he can lucidly point out how iron ships can be built so as to ensure not only speed but safety. The attention of the Belgians has been attracted to the matter, and the Société COCKBURN has lately built a fine screw steamer of 2000 tons burthen, which, within the last few days, has been floated on the waters of the Thames. Owing to the high tariff in America, iron ship building in the United States has received a great check: from this circumstance alone we should imagine that a greater impetus would be given for the construction of vessels of that description in this country. We have the materials at command, and the men who are capable of carrying out any work which may be entrusted to them; and by properly availing ourselves of the elements we possess, it is reasonable to suppose that not only can competition be distanced, but pre-eminence maintained.

The wooden walls of old England have proved efficacious in their time; by their instrumentality we obtained the maritime supremacy of the world—this we must hold; but, in order to do so, it is necessary to adopt every improvement that may arise, and render our royal and mercantile navy the most efficient, as it is the most numerous. This is emphatically an age of iron; and that metal, fostered by engineering skill, has worked wonders in the present century. There can be no question but that iron vessels are capable of further improvement; to effect this we must not trust to Government alone: when they feel the pressure from without, a movement in the right direction may be expected from them, but until that occurs, memorials and representations are but so much waste paper. British enterprise must, as it has hitherto done, depend on its own exertions and untiring energies. The subject we have treated of is one of national importance; it concerns more particularly, however, our ironmasters, shipwrights, and merchants, and we trust that by a skilful combination of the powers they possess, fewer accidents to life and property will occur, and by these means our material industry will be encouraged, and our national wealth considerably augmented.

The Australian July mail is still out, but may possibly be brought from Alexandria with the India bags, due here on Sept. 15. The *Columbian*, which brings it, is now ten days overdue, and her arrival is looked for with much interest and some anxiety, inasmuch as it is thought possible she may bring intelligence of another ministerial crisis in Victoria, arising out of the Lands Bill. The *Melbourne Age* of May 25, the latest date to hand, expresses its apprehension that serious consequences will ensue, as both parties are so violent in their exertions and determination to carry on to reject the measure. It is a Government bill, and opposed strenuously by Messrs. O'SHANASY and DUPPY, supported by the interests of the "diggers," now a powerful party, and all the town populations, while the Executive have the full support, of course, of the "squatters," or the landed proprietors, who of themselves, though numerically weak, are strong in a political sense; besides which, their ramifications with the merchants as the suppliers of the raw material, and large consumers of the manufactured article, enable them to bring a powerful combination to bear against the opposition. The whole population of Victoria, according to the recent census, is 414,000, of which only 800 are "squatters," but such is their power, that they are considered equal in parliamentary strength to the rest of the country. The object of the bill is to continue to them their pre-emptive right of purchasing the whole, or portions, of the vast extent of territory which they hold at a mere nominal rental, and which is considered unjust towards the general population, and obstructive to the progress of the colony. The Legislature had adjourned from June 24th to the 30th; and, although there were only a few days to intervene, it was thought that much would be done by both parties to support their respective views. It was on this measure that the House sat from 4 P.M. to 12 o'clock the following day—an extent of continuous discussion unparalleled in parliamentary annals. If the bill be carried by the Government, it is possible that serious riots may occur—in fact, a little colonial revolution. Such is the tenor of our private letters. The Railway Committee had not made its report; but if it did, it is not to be supposed that any consideration could be given to it during such general excitement.

The statistical accounts from South Australia are highly satisfactory, and show that the steady reliance on, and the substantial development of, its three staple productions of corn, wool, and copper, gives it great commercial weight, as respects the other Australian dependencies, in its transactions with this and other countries. We find during the past year its progress has been most remarkable in comparison with its sister colonies. Within 12 months it has doubled its exports. In 1855 the total declared value of the produce of the colony shipped from its ports was £686,955/-, while in 1856 the amount was £1,398,367/-, in almost equal proportions as respects the three principal commodities—grain and flour, 556,741/-; wool, 412,183/-; and copper, 409,042/-, which together make a total of 1,376,946/- from the general exports, the balance of £21,421/- being made up by live stock and unmanufactured articles. The imports during the last year are set down at £1,205,069/-, showing, consequently, an excess of exports over imports of £153,295. The general finances of the province are likewise in a flourishing condition. After defraying the whole of the liabilities up to March, 1857, there was a surplus of upwards of £100,000, at the disposal of the Legislature. The revenue for 1856 amounted to £56,000.

Notwithstanding that as yet no remunerative gold fields have been met with in South Australia, its commercial advance is much more marked than that of Victoria, with its extraordinary yield of the precious metals; for scarcely any excess of shipments are shown in 1856 as compared with 1855 in the returns from that colony, demonstrating, therefore, clearly that while the Victorians have been neglecting agricultural development, the South Australians have not departed from the more staple occupations to search for gold, and have been fully rewarded by the great yield of cereal productions; to an extent, in fact, equivalent in benefit to the result of gold workings in Victoria, when the difference of population is considered. It is argued, and apparently with much force, that although Victoria, with its numerous gold fields, and large yield of the precious metals, has produced in the aggregate a great amount of wealth to the inhabitants, yet, taking into consideration the vast number of hands thus employed, and the distribution of the wealth amongst that number, the sister colony of South Australia, with its comparatively limited population, has yielded even greater wealth by its agricultural and animal productions, apart from its vast supply of copper.

The President of the Board of Trade of Victoria, Mr. MOORE, has given notice in the Legislature of that colony of the intention of the Executive to place a proposition on the estimates for a grant of a sum of money to act on the recommendation of the geological surveyor, with respect to assumed deposits of coal at Point Richard, near Portarlington; at Swan Bay, near Queenscliff; and on the borders of Lake Connewarre, as reported to the Government in October, 1856. In the event of the vote being accorded favourably to the Government, and of which there was no apprehension, it was determined to advertise for tenders for boring forthwith, that no delay might occur in the investigation of this important question of the existence of coal, and to test the value of such carboniferous deposits. The two first-named places are in close proximity to each other in Port Phillip Bay; Lake Connewarre is inland, sanguine views were entertained as to the result. It is necessarily a matter of vast importance, for if coal be discovered, especially on the borders of Port Phillip Bay, immense advantage will accrue to the shipping interests of the colony especially, and indeed to the public generally. At the present moment the coal consumed is forwarded from this country, or from Sydney. In the latter place it is worked to a considerable extent, and gives an advantage of moment to that colony over Victoria.

In one of the mail steamers, now on her homeward voyage, an experimental trial, we are informed, is being made to test the quality of the Sydney coal, as compared with those now used. It is represented as possessing the same chemical properties as those exported from Wales for steam purposes, being highly bituminous, forming a good coke, leaving little ash, and nearly free from sulphur. If coal seams be opened and worked in Victoria, and of which there is every probability, a very material feature will be added to the already extensive trade in various articles of consumption and export, and there really seems no limit to the advantages in prospect for this flourishing dependency of this country.

Through the same channel of information we are informed likewise that a rich vein of copper ore has been met with in the vicinity of Portland Bay, which is on the coast of Victoria, with every appearance of being extensive. This is another important announcement. Hitherto the sister colony of South Australia has monopolised the production and export trade of this article of commerce; and although Victoria has been so extraordinarily rich in the precious metals, the other ores have not been prolific, so that a discovery of copper is an important consideration.

The postal communication with our Australian colonies is a subject which engrosses great attention on the part of our merchants, and deservedly so. The route proposed, via Panama, is to be effected in 53 days during eight months of the year, and 56 for the remaining period—that is between Southampton and Melbourne, via Sydney and New Zealand. The existing route, via Suez, is 55 days only between the same places, and 50 between Marseilles and Melbourne all the year round, and with adequate arrangement it might be effected within 40 days, so that no benefit would accrue by the substitution of the new for the old route, as some correspondents have supposed was in contemplation, but the few additional days in the transmission of letters via Panama will be of moment, if two mails per month be secured by the adoption of the proposal of the Royal Mail (West India) Steam Packet Company. Mr. WETTON, the gentleman who proceeded to the colony as the representative of this association, has now returned, as we mentioned in our last, and all necessary steps are being taken to bring this matter into operation with every expedition. The Melbourne Chamber of Commerce has not, however, acceded to the views of the Royal Mail Company, inasmuch as it was thought that Mr. WETTON had assented to terms with the Government of New South Wales, which would give unfair advantage to that colony; that a conditional contract has been entered into between Mr. WETTON and the Executive of New South Wales, for seven years, for a subsidy on the part of the latter for £5,000/- annually, of which New Zealand is to provide £5,000/-; the steamers to run between Panama and Sydney, touching both ways at a New Zealand point, and a branch steamer to take on the bags to Melbourne. In fact, the Melbourne merchants require that the termination of the voyage from Panama should be their own city, in the same manner as Sydney now classes the route via Suez, and this will be

found embodied in the following resolutions, passed by the Melbourne Chamber of Commerce at a meeting held for the discussion of this matter:—  
 1. It is considered expedient that a monthly steam communication, via Panama, with Great Britain should be established.  
 2. That the contract for performance of this service should be subject to open competition.  
 3. That the British Government, on the part of the colonies, should execute the contract with the parties engaging to perform the service.  
 4. That an essential condition should be, that Melburnians shall be the terminus of the trunk line, in the same way as Sydney is the terminus of that via Suez.

It is, therefore, clear from the foregoing that the Royal Mail contract will be with Sydney and New Zealand. To remove these local jealousies, it would be better to adopt the suggestions made by ourselves in our Journal of July 18—that the route via Suez should terminate at Melbourne, and that via Panama at Sydney—thus giving each place a priority of information each month, and leaving the transmission of the bags between Melbourne and Sydney, and vice versa, to be effected by local steamers. The shortening of the Suez route, by stopping at Melbourne, would enable the steamers to call at Port Lincoln or Nepean Bay, to drop the Adelaide bags, and thus satisfy the urgent want of the South Australians, who complain of this neglect in postal communication; added to which, it would be a solid reason for requiring a subsidy from the Government of South Australia, and so lessen the cost to the other colonies for the conveyance of their letters.

#### THE IRON AND COAL TRADES OF STAFFORDSHIRE.

[FROM OUR CORRESPONDENT IN WOLVERHAMPTON.]

SEPT. 11.—The improved demand for manufactured iron spoken of last week still continues. The works are now fully employed throughout the district, and some firms are compelled to make extra exertions to supply the demand for bars. This activity is the result of the receipt of large orders both for export and for the home market, the latter, probably, being most urgent in its demands. The requirements of Lancashire for bars are just now particularly pressing, and it is almost difficult to keep pace with them. Whether this is only a temporary, or is a permanent improvement, remains to be seen. The recent hot weather considerably reduced the make of finished iron whilst it continued, and the present briskness may be simply the result of the deficiency thus occasioned, though it appears likely to continue. It proves what is stated on every hand, that stocks of iron are everywhere extremely low. Pigs at present remain quiet at former rates, but a continuance of the improved demand above alluded to must necessarily impart more animation to this branch of the trade. Notwithstanding the diminished make, consequent upon the hot weather impeding the operations of the puddler, stocks of pig-iron are generally low throughout the district.

A very praiseworthy effort is being made to establish a Working Men's College in this town. A number of gentlemen of superior education, several of them holding University diplomas, have formed themselves into a council of gratuitous teachers, and have taken premises for the purpose of carrying on classes in various branches of literature and science. But one thing appears to be wanting to assure the success of this effort, and that is a body of working men desirous of availing themselves of the advantages which the proposed institution will afford. On this point some people shake their heads, and say that "If you want to collect working men, you must make eating and drinking a conspicuous feature;" but though with reference to a large portion this is undoubtedly true, it is hard to suppose that in this large population of skilled artisans a sufficient number cannot be found to make a beginning in so excellent a work.

Extensive operations for the drainage of valuable mines in this neighbourhood have just been brought to a satisfactory termination by Messrs. Dimmick and Marten, proprietors of the Parkfield Furnaces and Mines. The property occupies an elevated site to the east of Wolverhampton, and extends thence to Bilston. Viewed in reference to drainage, it forms part of a triangle about two miles square in area, which by the dislocation of the strata from elevation and depression is isolated from the mineral properties adjoining by extensive faults, filled with clay, impervious to water. At its base is the great sandstone fault, and other coal fields bound it on the two sides, the apex of the triangle extending to near the Great Western Railway station at Bilston. Up to five or six years ago this triangular area was drained by two water-engines, the one known as the Sandy Gay engine, belonging to the Parkfield Company, the other the property of a firm which owned and was working another part of the minerals lying within the same triangular area. This latter engine suddenly ceased to work, and the consequence was that the former being unequal to the task of lifting the great quantity of water running into this large drainage pound, the water gradually rose. The shaft of the Parkfield Company had been sunk to the depth of 150 yards, and the water accumulated until it was from 90 to 100 yards deep, drowning out the new mine coal, 7 ft. thick; the fire-clay coal, 7 ft. 6 in.; the bottom coal, 11 ft.; and the mealy grey coal, about 1 yard in thickness. The ironstone measures submerged were the getting-rock, the poor robins, the white ironstone, the balls, the blue flats, and diamonds. These measures are of a very superior character, the two last being the best found in the district. At the height above alluded to the faults which had hitherto confined the water to the triangle before described ceased to be impervious to water, and as this property occupies a very elevated site, it began to flow rapidly into the adjoining or Millfield pound, filled up that, putting a stop to all the mining operations, and from thence made its way into the Stow Heath pound. This occupied some eight or nine months, but during this time the proprietors of that mine in the last-named area had taken time by the forelock, and had so increased their pumping power as to enable them to cope with the stream that began to flow rapidly into their pound. Had this not been done, the consequences must have been very serious, extensive works in the neighbourhood of Bilston and Wolverhampton deriving their supply of minerals from the last-named mines.

The natural consequence of this state of things was that the value of the Parkfield estate was greatly deteriorated; operations being necessarily confined to the minerals lying within 50 or 60 yards of the surface. It was in this state when purchased by the present proprietors, Messrs. Dimmick and Marten; and, although it was by very many regarded as a perfectly hopeless task, they determined, after careful calculation, and acting upon the advice of men of experience, in whom they confided, to make an effort to recover the valuable minerals which were submerged. So convinced was the Millfield Company that the drainage of the Parkfield pound was hopeless, that they had actually removed their engine. Operations, however, were commenced by the Parkfield Company for the purpose of draining their pound. The power of their engine was augmented three-fold by increasing the diameter of the pumps from 13 to 16 in., by lengthening the stroke, and by so altering the engine as to enable it to work 11 or 12 instead of 6 or 7 strokes each minute. After some time spent in preliminary operations, pumping was commenced in April last year, and in a few weeks the water was so far lowered that the new mine coal and the getting-rock ironstone were drained. Several difficulties, however, interposed to prevent the realisation of the immediate success which this first result promised. The gradual removal of the old lift, pipe by pipe, in a narrow shaft, and replacing them by new lengths, was a very difficult and tedious operation. In addition to this, it was found that the water had, during the years it had lain in the pound, absorbed a considerable quantity of freed sulphuric acid, and other impurities, which rapidly corroded the iron of the pumps and apparatus, and it was found necessary, in consequence, to substitute three brass barrels, weighing upwards of a ton each. A new and very ingenious method of balancing the rods, by means of a chain and wheel instead of a balance tip, was adopted, and this proved much cheaper, more effective, and far less cumbersome than the original plan. Up to the end of July last, from the completion of all these improvements, the quantity of water raised averaged daily 1,200,000 gallons, or sufficient to fill a pond 1/2 acre in extent and a yard deep, each day. The water was pumped into the canal, and entering it at the highest level was of considerable value to the Canal Company, sufficient being supplied to fill the locks about twenty-eight times each day. The water has now been drained to the bottom of the shaft, a depth of 160 yards, and the roadways and workings are being cleared, preparatory to re-working the measures which have been so long under water. These operations have directly drained an area of nearly 1000 acres in extent; but, in addition to this, the proprietors of the Millfield Collieries are preparing to replace their pumping-engine, so as to re-open their mines, now that the water ceases to flow from the Parkfield pound into theirs, and the proprietors of the Stow Heath Mines will be able greatly to reduce their expenditure in pumping. As an illustration of the extent to which the value of mining property will be enhanced by the result effected by these operations, it may be observed that the minerals belonging to the Parkfield Company alone which will thus be rendered available are expected to yield a supply sufficient to keep their furnaces in operation for an additional period of 20 years beyond the time which the consumption of the upper measures would have taken—in other words, the success of this spirited enterprise will enable the proprietors of that company to produce 500 tons of pig-iron per week for this period, in addition to the yield of the upper measures. This case forms no exception to the general rule in such operations,

that many will share the benefit who took no part in the risk and expenditure, but several of the proprietors of mines affected by the operations thus happily concluded intimated at an early stage of the proceedings their intention, in case success should crown the attempt, to contribute towards the cost, which amounts to about £5000. The above simple recital of the facts needs not to be lengthened by any eulogium upon the skill, enterprise, and perseverance which have thus encouraged and successfully overcome a difficulty which most people regarded as insuperable.

#### REPORT FROM YORKSHIRE, DERBYSHIRE, AND LANCASHIRE.

[FROM OUR CORRESPONDENT IN CHESTERFIELD.]

SEPT. 10.—There is no material alteration to notice in the position or prospects of the Iron Trade this week. There is a steady demand for malleable iron, and full prices are easily obtained.

The Coal Trade is increasing, and as the season is advancing we may expect an augmented demand: no alteration in prices.

A terrible explosion took place on Sunday morning last in an ironstone pit at Birdholme, near Chesterfield, now being worked by the Wingerworth Iron Company. It appears that a quantity of foul air had accumulated in the old workings, and on Sunday morning it forced its way through a body of water, and came in contact with the fire of the ventilating apparatus, and exploded with a fearful report, which was heard for a mile distant. The force of the explosion broke the interior workings of the pit, and threw portions of the debris up the shaft. The engine-man had been in the pit about 20 minutes before the accident occurred. Being Sunday, there was no other person employed in the mine, otherwise the result would have been fearful to contemplate. There were about 22 men usually employed in the drift where the explosion occurred. As soon as possible after the accident, preparations for repairing the pit were commenced, and the work has now been renewed.

A fatal accident occurred on the ironstone railway connected with the Milton Ironworks, at Elsecar, near Barnsley, on Monday. A young man named George Helliwell, in the employ of Mr. Norton, of Heyland, was engaged in the conveyance of ironstone from Tankersley to the Milton Ironworks, when he was caught between the buffers and fearfully smashed, and died soon afterwards.

Thos. Creswell was charged by Mr. James Eley, colliery agent to Mr. A. M. Mundy, "that he did on Aug. 25, in a coal mine, at Shipley, use a naked light, where safety-lamps are ordered to be used, to the utmost peril of the lives of the miners employed in the said pit." He was committed to gaol for one month, with hard labour.

Lead mining in Derbyshire is progressing very satisfactorily. The Eyam Mining Company will have another large sale of ore soon. The shares have advanced. The Chapel Dale shares are increasing in value, and have been sold at 3*s*. 1*d*, 6*s*, 10*s*. paid. The North Derbyshire Mine, at Wren Park, is progressing well. The mineral property adjoining the Mill Dam Mine is being inspected, with a view to adding it to the Mill Dam Sett. The prospects of this company are highly favourable.

#### REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

[FROM OUR CORRESPONDENT IN SOUTH WALES.]

SEPT. 10.—In the absence of any interesting feature to record in the positions of the Iron and Coal Trades, we have little news to chronicle, with the exception of several more casualties. The collieries of South Wales already rank among the first in the number of accidents which take place, and the coroners and Government Inspectors find their services in very general requisition. The offices are far from being sinecures. On Friday last Mr. Charles Collins held an inquest on the body of a lad who had been crushed to death in the Cwm Du Colliery, Llansamlet, two or three days previously. The duty of the deceased was to attend to the signals, and when loaded wagons went up the incline he was required to turn the points, which permitted the empty wagons to descend. On the day of the accident he forgot to perform his task, and the consequence was that the empty and loaded wagons met, and crushed him between them. Death was, of course, immediate. The coroner's enquiry was adjourned for the purpose of obtaining time to give the requisite notice to the Government Inspector. The second accident to which we have alluded was fortunately unattended with fatal consequences. Six men were working at the Penydarren Bridge level, when a large quantity of rubbish suddenly gave way, and completely enclosed the labourers. At this time they were about a mile away from the mouth of the level. Other hands were immediately brought to the spot, and set about extricating them, but, owing to occasional falls while they were so engaged, ten hours elapsed before the affrighted men were released. It is said that a horse remains in the level alive, but it will take a week to liberate him. Provender is supplied to the unlucky animal through a hole, with which he regales himself with great calmness. The earth has been propped round, so that no more can fall in upon him. Beyond an occasional cry of distress, he bears his unpleasant confinement with exemplary patience, and surveys the preparations made to free him with manifest interest.

The reports of the Government Inspectors and Commissioners furnish some curious information concerning the mining districts. With regard to this part, the statistics are the reverse of satisfactory. The number of deaths in our mines has increased, while few additional efforts appear to have been made to prevent this great mortality for the future. It was remarked in the Journal last week that the explosions at Cwmtillery and Cymmer swelled the list greatly, but after making every allowance for these, the number of deaths appears very great. This may partly be accounted for by the peculiarly fiery nature of the coal fields, and by the careless manner in which lights are used. According to the testimony of Mr. Herbert Mackworth, the mines in which the most numerous accumulations of fire-damp existed are those where candles were used. Thus the greatest carelessness is shown in the most dangerous places. So far from adopting extra precaution against risk, the workmen neglect to take any, and imperil their lives with the greatest indifference. It is sometimes pleaded as a reason for using naked lights that the colliers can work with much greater celerity by their aid, but this assertion is not supported by facts. The difference in the saving of time is found to be very slight, even where there is any at all, and a trifling additional allowance would be ample compensation. But when, combined with gross carelessness in the use of lights, we find ventilation utterly neglected, the evil becomes indeed a serious one. It was said by a correspondent of the Journal last week that the writers who complained about imperfect ventilation are not in a position to suggest any plan for the removal of the difficulty. This is scarcely the truth. The complaint generally is that owners will not adopt the systems of ventilation we at present possess, while the new inventions are wholly unheeded. We last week referred to the ventilating fan at the Abercarn Collieries, which is found to work with such success, but it is far from being in general use. It has undoubtedly preserved safety in a very fiery seam, and besides its other advantages has the merit of being worked at an insignificant expense. The first cost is almost the only one. At Abercarn the pit in which the fan is used is sunk to a depth of nearly 300 yards, and about 500 tons a-day are raised from it. On an average, 45,000 cubic feet of air are circulated through the mine, part ventilating the upper, and part the lower workings. The whole apparatus is set in motion, as we intimated last week, by a small non-condensing engine. Here, then, is the most perfect ventilating machinery ever constructed, if owners choose to avail themselves of it. Surely there can be no just grounds for the statement that no suggestions can be offered for securing safety.

It is satisfactory to find from Mr. H. S. Tremenheere's report that the assertions respecting the Risca Collieries are unfounded. It has been said that the hands "were demoralised by the truck system," but we have not heard the complaint repeated recently. The present managers are acquitted of all blame by the commissioner. There are, however, some features connected with this truck system in some parts of South Wales which demand attention, and before long we shall devote a few remarks to the subject. Mr. Tremenheere animadverts on the practice of employing females below ground in certain districts, which, he truly says, is on the increase. They are mostly girls, some of them of tender years. The custom is fraught with mischief, and the law should be more stringently enforced to put a stop to it.

The sale of collieries at Bristol mentioned in our last takes place this day. We shall present particulars in our next.

The important operation of attaching the iron road-way at the Neyland terminus of the South Wales Railway to the floating pontoon was effectively accomplished on the 8th inst. This iron road-way is fastened at one end by massive iron hinges to the stone pier, and at the other to an enormous pontoon floating in deep water, alongside of which steamers lie

at all times of tide, and as it rises and sinks by the ebb and flow of the tide, the road-way becomes level or inclined. The affair was completed in the most satisfactory manner, and now passengers embark and disembark both comfortably, safely, and with the greatest facility. Every accommodation is being consummated; an hotel is in rapid progress; additional elegantly-fitted and furnished waiting apartments and refreshment rooms are being provided. Irish mails will be forwarded in a few days by this route.

#### STOCK, MINING, AND RAILWAY SHARES IN IRELAND.

[FROM OUR CORRESPONDENT IN DUBLIN.]

SEPT. 10.—The stock markets have been temporarily influenced to a downward movement by the settlement of the stock account, which has been in course of arrangement during the past week.

The estates of the late Marquess of Thomond, in the counties of Clare and Cork, will be sold on the 8th, 9th, and 10th December in the Encumbered Estates Court. This is one of the largest properties brought into that court since its establishment, the Clare estate alone comprising over 40,000 acres.

The mechanical section of the British Association was presided over by the Earl of Rosse, one of the greatest patrons of science and scientific institutions. One of the most important papers read before this section was that by Mr. Mallet, "On the Construction of Monster Guns," in which he referred to the 36-in. mortars made by him to the order of Government during the war with Russia. Mr. Mallet produced numerous diagrams to aid the description of the construction of his gun, which involved high mathematical as well as mechanical principles. He considered wrought-iron as the best and cheapest material for artillery, and he gave following as the relative cost of a gun of 1 ton weight, which in cast-iron would cost (say) 1*s*; in bronze, 1*d*; in German steel, 2*s*; and in wrought-iron, only 1*s*. A gun of wrought-iron would be but one-fifth the weight of a bronze gun. His paper did not take into consideration other elements such as wear and tear, and the cost of transport. Mr. Fairbairn had never seen a more perfect piece of workmanship than Mr. Mallet's ingenious gun, but considered along with Mr. Beanie, C.E., that the most suitable material for guns was cast-iron of best quality. Capt. Blakely, R.A., differed from Mr. Mallet very slightly in his mode of constructing large guns, which was to form the interior of cast-iron, placing over it rings of wrought iron at a white heat, hammered together, and that a nine-pounder, constructed on this principle, and from which 150 rounds were fired, had been tested with every satisfaction at Woolwich.

It now remains to be seen, by practical experiment, whether Mr. Mallet's opinion of the strength of wrought-iron in guns be superior to cast-iron, and it is a problem on which some further light may be thrown before the British Association again meet.

Mr. James Burton, engineer to the Dublin and Belfast Junction Railway Company, described the principles on which the Boyne Bridge had been constructed. It having been ascertained by scientific investigation that such and such portions would be subjected to certain amounts of strain, each portion of the bridge had been constructed accordingly, so that all the parts of this bridge were more nearly proportioned than was usual, or even necessary, in works of a similar nature. All the iron employed in its construction was obtained from Staffordshire, and amounted to 750 tons, at a cost of 24*s*. 10*p*. per ton. The dimensions of this bridge are—Height above high-water mark, 90 ft.; width of centre span, 250 ft.; of the two side spans, 150 ft. each.

Mr. J. Crawford read a paper "On the Effects of the Gold of Australia and California." The principal results sought to be established were, that the enormous quantities of gold and silver suddenly thrown upon the market during the last nine years have not produced a proportionate depreciation in the price of these metals, and rise in prices, and that the cause of this arises from the capacity of modern industry to increase indefinitely the impetus given to manufacture and commerce by the discovery of the precious metals. The experience of the last nine years leads to the conclusion that the great fall in prices commonly supposed to have taken place in the 16th and 17th centuries, after the discovery of the American mines, if it really took place, did not arise from the cause, but from the growth of industry thus fostered, and the general progress of society. Mr. Crawford pointed out that, unless new mines are discovered, the portion of gold and silver yearly imported to the old stock will be diminishing gradually, and that in any case the industrial development will absorb the new supplies.

Prof. Cairnes, in a paper "On the Effects of the New Gold Field, an Instrument of Purchase, on the Production and Distribution of Real Wealth," considered the effect of the increased quantity of gold as money, in the production and distribution of real wealth—meaning by real wealth all valuable things, minus money, which, he added, might be called nominal wealth. He noticed two conflicting theories on the subject. One school of political economists contend that an increased quantity of money produces no less effect, but that, so far as it produces any effect, it is a mischievous one; the ultimate result will be a general rise of prices, which will benefit nobody, except those under obligation to pay, or those having a claim to receive, a certain quantity of money. This theory, he thinks, correctly describes the final result, but does not explain the phenomenon during the transition from low to high prices. Another school of economists look upon every increase of gold as a blessing, as it produces as they contend, by occasioning an increased demand, a corresponding increase of wealth. After pointing out the fallacy involved in this view, Prof. Cairnes proceeds to supply the defect in the first theory by showing that very important results are produced during the transit of the stream of gold over the entire world. Those who incomes are the first to rise will be benefited at the expense of their fellow-men. Therefore, his final conclusion is, that the sole effect of the new gold is to alter the distribution of real wealth, but not directly to add to its aggregate amount—the Prof. Cairnes said there was something peculiar in the search after gold; and even though it turned out that the aggregate of the gains of the gold diggers was less than that of any other class of workers, yet still persons would be seduced by the temptation of the few great prizes that might have been gained in the search for gold, overlooking the great number of failures. He remembered hearing it remarked that it was a common saying in Peru, that if a person worked in a copper mine he might gain, but that if he worked in a gold mine he was sure to be ruined.

#### INDUSTRIAL PROGRESS ON THE CONTINENT.

[FROM OUR PARIS CORRESPONDENT.]

SEPT. 10.—Speculation is still languishing from the cruel effects of sertion. Like another Dido, she sighs for the ardent caresses of her Hamon, who has sailed away to "fresh woods and pastures new." The Temple Mammon, that formerly was thronged to suffocation with crowds of egotists and reckless votaries, is now forsaken, and looks more like the Temple of Solitude than its former self. Men of studious habits, deep in the mysteries of the Chaldeans, come here to withdraw from the noise of the city and to be enabled to pursue the faint and slender thread of their researches in silence and without interruption. A few of the high priests—confidants—who appear as though they had stepped out from the Assyrian *banni* *levi*, and disguised themselves in modern costume, lounge about, however, around the deserted shrine, and exchange cabalistic signs with one another. These are the Children of Israel who come up to the Bourse, as the countrymen in Judea go up to the place of wailing, by the ruins of the Temple, to mourn over their departed glories. In addition to the dry up of this source of wealth and splendour, there are wailing and gnashing of teeth among them for one of them, and that one, a great man in Ireland, is under the hand of affliction. The Credit Mobilier has fallen from its high estate, and Isaac Periere sits in sackcloth and ashes. When the news came about Thurneyras's liabilities the Credit Mobilier share fell, as mentioned in my last, 30*s*. and subsequently 70*s*. on the first day of the month they were at 95*s*. They are now quoted at 85*s*. and even as low as 84*s*. Efforts are made to keep them afloat, nevertheless they appeared to have acquired so great a specific gravity that can less constantly sustained by aid from without, down they go. If the scheme ever repose upon a solid foundation, and not upon the shifting sands of credit, there is no reason for this fall. The bankruptcy of two of the directors ought not, and could not, affect the stability of the enterprise, were the constitution sound, for it pays, or has paid, 20*s*. 75*s*. per annum shares of 500*s*. each, but a short time since, were at 1900*s*. and even on one or two occasions shot beyond 2000*s*.—that is, were at 20*s*. per cent. premium. Nothing has occurred since then, within the knowledge of the public, to depreciate the shares: for ought that is proved to the contrary, they may produce the same amount of profit next year. The company has realised large profits is unquestionable, or else how could these enormous dividends have been paid? Had they been paid out of capital, after the fashion of the Royal British Bank, the 60,000,000*s*. subscribed would have been swallowed up by this time—no very pleasant prospect to shareholders.

Your readers are aware that the most successful operations of the company have been in patronising various undertakings, in subscribing large numbers of shares. Consequently, the patronised concerns are liable to find themselves in a very awkward predicament; for should the Credit Mobilier be obliged to realise its securities, the market will be flooded with shares in enterprises in which it is interested will suffer an enormous depreciation. This is stated to be felt, and the patronised concerns, knowing how they are bound up with the Credit Mobilier, are alleged to stir every nerve to keep the shares of the latter afloat; hence their present buoyancy. The present aspect of affairs has, of course, affected all kinds of stock. The Three per Cent. have gone down to 66 90*s*. and the Shares fell 45*s*. Railway Shares fell in proportion during the second part of the week, but have since slightly recovered.

In the Metal Market there is not much to report. A large order for

inery pigs was given and accepted, 150 frs. the ton, to be delivered at St. Dizier. The demand for merchant iron is tolerable, sufficient to keep the make going. The prices for the month are—325 frs. to 340 frs. for rolls, according to the importance of the order, and delivered in any of the Eastern Railway stations free. Hammered iron is quoted at from 370 frs. to 390 frs., delivered at stations nearest the works. For castings the prices are—pipes, 170 frs.; dog irons, 160 frs. to 170 frs.; plates, 195 frs. to 200 frs.; water-pipes, 260 frs. to 265 frs.; spouts and elbow-joints, 265 frs. to 270 frs.; axle boxes, 5 kilos. and over, 250 frs. to 260 frs.; under, 350 frs.; forge tuyeres, 2 frs. The Paris metal market is firm. Russian copper at from 320 frs. to 340 frs.; English ditto, from 310 frs. 315 frs.; and Chili, 290 frs. to 292.50 frs. Tin—Banca, 385 frs. to 390 frs.; Straits, 370 frs.; Peruvian, 360 frs.; English, 360 frs. to 365 frs. Lead—Spanish, 68 frs.; French, 67 frs.; and sheet, 75 frs. Zinc—Silesian spelter, 80 frs.; 80 frs. to 81 frs.; sheets, 100 frs.

Further information respecting silicon has been communicated to the public by Messieurs Sainte-Claire Deville and H. Caron. These gentlemen preface their communication, by remarking that it is a property common to all metals, and to the lower metalloids, to react on one another, and form alloys. These compounds act as if the metal was dissolved in the other, like watery solutions in which substances are dissolved. Carbon, boron, and silicon, have this character. Silicon is capable of crystallisation in aluminium; and Messieurs Sainte-Claire Deville and Caron, believing that this was not the only metal capable of dissolving silicon, sought for others, and succeeded in discovering that zinc in solution was available for this purpose. For simple bodies dissolved in, or, as we should probably say, alloyed with zinc, may be extracted from the compound by dissolving out the zinc by means of acids; that is, of course, when the other substances are not attackable by acid. The preparation of silicon by this method—by the agency of zinc—is a very facile operation, and allows of its being obtained, at little cost, in considerable quantities, and under the best forms. For this purpose an earthen crucible is heated, and then filled with a compound of 3 parts by weight of fluosilicate of potassium; 1 part of sodium, cut into small pieces; and 1 part of granulated zinc. A feeble reaction accompanies the reduction of silicon, and would be insufficient to produce the complete fusion of the materials; the crucible has, therefore, to be raised to a red heat, and kept at that point until the scoria is completely melted. Care must be taken not allow the heat to rise to such a point as would cause the zinc to be vapourised. The crucible is then allowed to cool down slowly, and then broken, when a zinc button will be found, penetrated in every direction with particles of silicon. The button is placed in hydrochloric acid, which dissolves out the zinc, and the particles are boiled in nitric acid. The resulting crystals are finer, larger, and obtained in more abundant quantities than by any other method.

#### MINING AND COMMERCE IN THE UNITED STATES.

BOSTON, Aug. 20.—Mining shares partake of the general depression of the Stock Market. During the month, the market for ingot copper has been very dull, and sales were made as low as 24 c., four months, for Lake Superior, and at 23 c., four months, for foreign. It is understood that large quantities have been taken for speculation and for export at about these rates. And since the tendency in London, at the latest dates, was decidedly to an advance in price, it may fairly be presumed that the lowest prices have been reached for the year. The market for mining shares, unless the rates of interest should rule much higher than at present, will probably improve. But no speculative movement can be anticipated, nor is it desirable. If a mine show a continued improvement in its workings, the advance in the market price will generally keep pace with its true value. Ingot copper is in demand at 25 c., four months.

PITTSBURGH AND BOSTON.—The lowest sale for many weeks was made to-day at \$265. The semi-annual dividend will be \$15 per share, payable August 31. The product for July was 142 tons; making for eight months of the official year 1110, against 1071 tons same time last year.

MINNESOTA.—This stock for a few days has been heavy at \$162 asked. The yield for July was 191 tons; making the result for seven months 1247 tons, against 1093 tons for the corresponding time in 1856.

ROCKLAND.—In good demand, at \$44 bid, \$46 asked. Product for July, 44 tons; yield for seven months, 1857, 229 tons; for seven months, 1856, 93 tons.

NATIONAL.—Inactive at quotations. Product for July, 20 tons.

PEWABIC.—No official returns since June 1: 80 tons have been received since the opening of navigation, and the managers confidently expect the product for the year will reach 200 tons.

ISLE ROYALE.—The yield for July was 27 tons; making 153 tons since the close of navigation in 1856.

QUINCY.—An assessment of \$2 per share was paid on 12th inst. The prospects of this mine continue of the most promising character. Carrying the Pewabic vein for nearly three-fourths of a mile, and the Quincy vein for more than a mile, with every facility for drainage, and a frontage of one mile on Portage Lake, this adventure can hardly fail, under its present judicious management, to make, at an early date, a remunerative investment.

DUPEE, PERKINS, AND SAYLES.

#### THE COAL TRADE.

The following is a statement of the delivery of coals, &c., in the port of London during the month of Aug. :-

	Ships.	Tons.		Ships.	Tons.
Newcastle	255	84,487	Blyth	6	1,266
Seaham	107	26,063	Scotch	1	188
Sunderland	173	60,474	Welsh	34	9,165
Middlesbrough	16	3,706	Yorkshire, &c.	33	2,788
Hartlepool & West Hart.	188	55,681	Small and cinders	13	1,967
Total		826			245,750
Total imported in Aug., 1856.		221,595			

#### Comparative Statement of 1856 and 1857.

Imported from January 1 to Aug. 31, 1857. Ships 6722 ..... 2,009,471 tons.

Imported from January 1 to Aug. 31, 1856. " 6973 ..... 1,958,173 "

Decrease of ships and increase of tons 250 ..... 21,295

#### THE RAILWAY COAL TRADE.

Monthly statement of coal and coke brought by railway and canal within the London district, during the month of Aug. :-

Railways.	Tons cwt.	Railways.	Tons cwt.
Great Northern	45,127 0	Great Western	10,097 0
North-Western	29,054 14	Eastern Counties	6,986 4
Total by railway in Aug., 1857.	91,264 18		
Coals by railway in Aug., 1856.	107,459 16		
Coals by canal in Aug., 1856	1,677 0		

#### Comparative Statement of 1856 and 1857.

Coals by railway from January 1 to Aug. 31, 1856. 792,045 0

Coals by railway from January 1 to Aug. 31, 1857. 780,922 0

Decrease in the year 1857—railways 11,126 0

Coals by canals from January 1 to Aug. 31, 1857. 17,293 0

Coals by canals from January 1 to Aug. 31, 1856. 15,830 0

Increase in the year 1857—canals 1,463 0

**LITERALITY OF THE MARCHIONESS OF LONDONDERRY.**—The Marchioness of Londonderry has proposed to the numerous miners and pitmen employed in the collieries on her estates in Durham to establish a fund for the purpose of supporting the infirm and worn-out pitmen of these collieries. Her ladyship proposes to call the establishment the "Pitman's Home," and has undertaken to be at the whole cost of the building, and likewise saying, "She should be happy to contribute fairly towards its maintenance." There are above 3000 workpeople employed in the collieries and works near Seaham-hall, and the greatest interest is manifested by the Marchioness for their safety and welfare. Schools are provided for the children, and increased facilities have just been given for furthering the education of those men at work throughout the day by night schools, to attend which they will be allowed to subtract certain hours from their evening employ.

**THE TUNNEL THROUGH MONT Cenis.**—According to the opinion expressed by engineers, the cutting of Mont Cenis is only a question of time and money. It will be necessary to bore a gallery 12 kilometres ( $\frac{7}{8}$  miles) in length. This work will be accomplished in seven years. According to geologists, the tunnel will pass through strata of less hardness. The height of the mountain is 2000 metres, and as the depth of the lake is only 120 metres, there will be a clear thickness untouched of more than 1800 metres between the bottom of the lake and the roof of the tunnel.—*Galignani's Messenger.*

#### WEEKLY LIST OF NEW PATENTS.

**GRANT OF PROVISIONAL PROTECTION FOR SIX MONTHS.**—A. MORTERAS, Paris: Coupling carriages on railways.—J. ABRAHAM, Birmingham: Gauge for gauging wire and sheet metal, and for other like purposes.—A. WALL, East India-road, Poplar: Amalgamating metals; also, coating metallic surfaces.—F. POTTS and Co., Birmingham: Cutting out, forming, and finishing certain descriptions of metallic tubes, part of which is also applicable for other such like purposes.—R. TAYLORSON, Tyre-terrace, Hackney: Metal ships and vessels.—T. INGRAM, Bradford: Railway-breaks.—V. H. LAURENT, Planche-les-Mines, France: Forging nails and other similar articles.—P. ASHCROFT, Richmond House, Dalston: Alarm signals for the prevention of accidents on railways.—H. CARTWRIGHT, Brossley, Shropshire: Construction of steam-engines.—F. A. GATTY, Askrington, Lancaster: Manufacture of chlorine and sulphuric acid.—G. GARDNER, New York: New and useful process in the treatment of cast-steel while passing from the molten state into that of being hardened or tempered, and which, with certain variations, is applicable to the making of tools, instruments, axes, wheels, or ingots.—R. J. BLANC, Paris, and South-street, Finsbury: Tyre for the wheels of railway carriages, engines, and tenders.—S. FOX and J. SLATER, Sheffield: Metallic compound applicable to the manufacture of various useful articles.—H. PARRY, Croydon: Rails for rail ways or railways.—J. J. TUCKER, Capt. R.N., and G. BLACKLAND, superintending engineer of H.M. Dockyard, Sheerness: Steam-boiler and other furnaces.—H. ELVIN, Castle Acre, Norfolk: Governors for steam and other engines.—R. ATTOWN, Edinburgh: Safety-engages or apparatus for mines.—A. SHANKS, Robert-street, Adelphi, Westminster: Machines for shaping and cutting metals and other substances.—I. GISSORNE and H. C. FOBBES, Duke-street, Adelphi: Paying out electric cables.

**CAST STEEL.**—M. CHAS. LENZ, Fenchurch-street, proposes to melt and convert iron in a granulated or pulverized state direct into cast steel by melting the same in combination with oxides already known, but without the use of crucibles or melting pots. In place of these he uses reverberatory furnaces, fire-clay, or furnaces of any other description, in the heart of which a cavity is constructed to receive the material to be converted, and to expose them to the action of the heat. To prevent the atmospheric air, flame, and gases of combustion acting detrimentally upon the metal, which it would do if brought into contact with the metal while in a heated state, he covers it over with a layer of glass, clay, earth or oxides. When the metal is converted it is run out of the furnace down a cast or wrought-iron funnel, lined with fire-clay, and he thus enables to supply a regular and continuous stream of fluid steel to ingot or other moulds placed to receive the metal.

**BLAST FURNACES.**—Mr. C. COCHRANE, Ormesby Iron-works, Middlesbrough-on-Tees, has suggested an improvement in heating blast for blast furnaces and cupolas. For this purpose the blast of air used is caused partly to pass through and amongst or in contact with burning coke or other fuel, and partly to pass to the furnace without so passing through and amongst burning coke or other fuel. The two currents mix together and form the desired heated blast. The two currents may be from the same source and at the same pressure, or the portion of air passing through the burning fuel may be at a higher pressure than the other portion of the blast.

**SAFETY CAGES.**—Mr. JAMES OWEN, Worsley, has patented an improved safety cage, which consists of an arrangement of levers, which, whilst the cage is properly suspended, are prevented from touching the guide rods, but in the event of an accident by the breaking of the rope, the weight of the cage causes the levers to engage in the guide-rods, and thus prevents further descent.

**REDUCING ZINC ORES.**—Mr. C. DE BUSSY, Mornington-road, has patented an invention, which consists essentially in smelting zinc ores in a blast furnace, and causing the gases produced in the furnace, together with the vapour of zinc and oxide of zinc, with which they are mixed, to pass through a second blast furnace, into which they are introduced at a short distance from the tuyeres. After traversing a part of the column of fuel contained in this furnace, the gases are drawn out and made to traverse a series of chambers, in which the metallic zinc is condensed. He employs a single blast furnace, of peculiar construction, to produce the effect obtained by means of the two furnaces alluded to. This furnace would be provided with two sets of tuyeres, the one at a short height above the bottom of the furnace, and the other at some distance below the top. The gases produced would be made to issue at an intermediate height between the tuyeres, and pass through chambers as described. The ore and flux would be introduced at the top or below the upper tuyeres. In both arrangements cold or hot blast would be used to suit convenience.

**MOULDING METALS.**—In casting metallic articles, according to the invention patented by Mr. A. V. NEWTON (a communication), an iron mould is first prepared according to the ordinary manner. The mould is provided with a vent for the escape of air therefrom as the metal is poured in. Before using the mould it is faced with plumbeous, and the gate through which the metal is to be poured is closed with an iron plug made for the purpose. The mould is then brought to a cherry red heat, the plug removed, and the metal poured in.

**STEAM-ENGINES.**—Mr. J. BURROWS, Wigan, has invented some improvements in steam-engines, in general, particularly applicable to all kinds of condensing engines, and especially such as are employed for the purposes of marine navigation. They consist in the novel application, employment, or use of a refrigerating apparatus, to be suitably arranged in connection with the air-pump and the condenser, for the purpose of cooling the water used for injection into the condenser after it has passed through the condenser and air-pump, so that it is enabled continuously to use the same water over and over again (in its distilled state), a portion of which water is being constantly supplied to the boilers, generated into steam; and after passing through the engine is condensed in the usual way, and thereby preventing, as much as possible, any change in the water after the boilers and cooling apparatus have been once supplied with pure water, and consequently considerably diminishing or preventing the evils arising from the effect of deposit or incrustation. The refrigerating apparatus may proceed from a receiver or chamber in connection with the air-pump (or direct from the discharge of the air-pump) as a continuous coil of piping, sufficiently long to ensure the required degree of cooling, such coil of pipes passing through a chamber or stream of cold water, and thus the injection water within the coil of pipes will be cooled by conduction, without being exposed to evaporation, or allowed to flow away, the water being led or conducted, after cooling, again to the condenser for injection, and so on continuously. It will be evident that the form, construction, or particular arrangement of this refrigerating or cooling apparatus may be varied to suit the several circumstances and situations wherein it may be applied and employed, the above described being the simplest, and, perhaps, the most generally applicable arrangement of the same.

**STEAM-BOLTERS—HEATING FEED WATER.**—MESSRS. BAUDOUIN, Toulouse, and RICHARD "protested" the invention of a peculiar construction and arrangement of apparatus for heating the feed water of steam boilers, whereby a saving of fuel is effected, the pump rendered less liable to derangement, and other advantages are derived. The apparatus is placed between the feed-pump and the boiler, and consists of a cylindrical or other suitably shaped reservoir or vessel, containing a number of dished plates riveted together, so as to form a series of steam chambers, the water to be heated being contained round these chambers. At a short distance from the mouth of each of these steam-heating chambers is fitted a plate, for the purpose of spreading or deflecting the steam through the interior of each chamber. The waste steam, which is used for heating the feed water, enters at the top of the apparatus, and after passing through the entire series of chambers escapes by a suitable pipe at the bottom. A reservoir fitted with a cock is placed under the heating apparatus, for the purpose of collecting the water of condensation, and running it off, when required, at intervals. A test cock may be fitted to the upper end of the apparatus, for the purpose of testing the heat of the feed as it enters the boiler, the cold water being passed into the apparatus from below.

**COKE OVENS—UTILISING THE WASTE HEAT.**—Mr. H. UNWIN, Sheffield, proposes to apply the waste heat of coke ovens to heating steam boilers for driving engines or other purposes. He arranges ovens somewhat in the ordinary manner, that is, with three, four, or other number of ovens side by side; then forms openings in the crowns of such ovens for the introduction of the coals, and for the passage of the products of combustion that must necessarily escape. These openings are furnished with dampers or valves to close them when required. On the top of these ovens is built a steam-boiler, extending over the several ovens placed together. Under this boiler openings are formed, communicating with the coke ovens, and a suitable valve or damper adapted to each, whereby such openings can be readily closed. The flue or passage under the boiler communicates with the chimney, where the products of combustion ultimately escape, after circulating under or about the boiler. There are two openings of escape for the products of combustion from the ovens, the ordinary ones and those under the boiler. Coke ovens being charged with coals in rotation, are constantly burning and evolving heat, which may not always be required for generating steam. When steam is required, the passages under the boiler are opened, while the other escape openings are closed; but when the pressure of the steam is not required to be maintained in the boiler, the flues or passages from the ovens thereto are closed, and the passages to permit the ordinary escape opened; thus the boiler is cut off from the heating action of the coke ovens.

**PUDDLING AND BALLING FURNACES.**—The improvements in furnaces for the manufacture of bar-iron, patented by Mr. JAMES CADICK, and others, are expected to secure for them very extensive adoption. The furnace, built according to Mr. CADICK's former patent, as to construction and material, is made longer, and with a second hearth and door (in the opposite side to the first); double the quantity of iron can be heated or puddled without increasing the consumption of fuel. The yield of iron is greater, and the wear and tear of furnace and flue are found in practice, after several months' trial, to be greatly in favour of the patentee's plan.

**EXTRACTION OF GOLD FROM ITS ORES.**—Mr. A. P. PRICE, Margate, has patented an invention which consists of a mode or modes of treating certain auriferous matters, compounds, and products, such as contain gold, alloys of gold, or other auriferous materials, consisting of gold alloyed or mixed with iron, copper, nickel, cobalt, silver, zinc, lead, and tin, or any of them, or any compounds or combinations thereof, for the purpose of separating and obtaining the gold separate from the other substances with which it is alloyed or mixed. For this purpose he converts such compound mixtures or products into a regulus of artificial sulphurates, consisting essentially of sulphur of iron or copper, or any combinations thereof, and which regulus will contain the whole, or practically the whole, of the gold contained in the original products, compounds, or mixtures, by fusion in a suitable furnace, with suitable fluxes, together with suitable sulphur, or sulphurated metallic or other compounds or materials. Should the compounds or products to be treated not contain sufficient of such sulphurated compounds as to form the required auriferous regulus of artificial sulphurates; but should the compounds, products, or mixtures contain or be mixed with a sufficient proportion of sulphur of copper or iron, or combinations thereof, so as to form, when subjected to fusion with suitable fluxes, such a regulus as before mentioned; then he subjects them to fusion with suitable fluxes, without the addition of the before-mentioned sulphurated compounds. If the compounds, mixtures, or products to be treated contain earthy, siliceous, or similar matter, he adds such fluxes as will enable him, by fusion, to separate them from the regulus of sulphurates contained in, or produced by or from, the compounds, products, or mixtures, treated or operated upon as before described. In order to obtain the gold from such regulus or from similar artificial sulphurated compounds, he subjects such regulus, or similar compounds of artificial sulphurates containing any of the above mentioned metals, together with gold, to calcination, either with or without the addition of common salt, or of other suitable chlorides, so as to convert the sulphurates with which the gold is mixed into oxides or chlorides, and to render the gold capable of entering into combination and forming a soluble compound with chlorine. He then subjects the product thus obtained to the action of chlorine, either in a gaseous state or in solution. If gaseous chlorine be used, then he adds water during the operation, or afterwards, to dissolve the gold compound. He also produces the same effect by the employment of certain hypochlorites in conjunction with an acid or acids, so as to liberate a solvent agent for the gold. The gold having thus been obtained in solution, he precipitates it from such solution by means of protosulphate of iron, sulphurated hydrogen

**METROPOLITAN SCHOOL OF SCIENCE**  
APPLIED TO MINING AND THE ARTS.  
The PROSPECTUS for the ENSUING SESSION, 1857-58 (containing information about the Lectures, Laboratories, Fees, &c.), is READY, and WILL BE SENT, on application to TERNHAN REEKS, Esq., Museum of Practical Geology, Jermyn-street, London. RODERICK L. MURCHISON, Director.

**MINING SCHOOL AT TRURO.**  
TEACHERS.  
Rev. A. W. HOBSON, M.A., PRINCIPAL OF THE SCHOOL.—Mathematics and Natural Philosophy, with their application to Engineering, Mechanics, &c.  
Mr. H. C. HODGE—Chemistry, Mineralogy, and Metallurgy.  
Mr. W. RICKARD—Practical Mining, including Dilling, Land Surveying, and Plan Drawing; also Geometrical and Mechanical Drawing, and Perspective.

The THIRD SESSION of this School will COMMENCE on Thursday, the 1st of October next, and will consist of three terms of ten weeks each. Information respecting fees, lodgings, &c., may be obtained on application to the teachers, or to  
W. H. BOND, Hon. Sec.

Turbo, 27th August, 1857.

**MINEBALOGY.—KING'S-COLLEGE, LONDON.**  
Prov. TENNANT, F.G.S., will COMMENCE A COURSE OF LECTURES on MINERALOGY, with a view to facilitate the study of Geology, and of the Application of Mineral Substances in the Arts. The lectures will be illustrated by an extensive collection of upwards of 3000 specimens, and will begin on Wednesday morning, 7th October, at Nine o'clock. They will be continued on each succeeding Wednesday and Friday at the same hour. Fee, £2 2s. B. W. JELF, D.D., Principal.

**BRIGHTSIDE COAL COMPANY.**—Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the shareholders of this company will be HELD at the company's offices, 31, Norfolk-street, Sheffield, on Wednesday, the 16th day of September last, at Seven o'clock in the evening, for the purpose of confirming the resolutions passed at the Extraordinary General Meeting of the shareholders of the company, held on the 24th day of June last, relating to the sale and disposition of the company's works and property; also, for confirming the acts of the directors consequent thereon; also, for the purpose of confirming the resolution passed at the said meeting, authorising the winding-up and dissolution of the company; and also, for the purpose of appointing liquidators, in accordance with the provisions of the Joint-Stock Companies Act, 1856.

Sept. 10, 1857.  
By order of the Directors,  
THOMAS SMITH, Sec.

**GREAT WHEAL VOR UNITED MINES.**—Notice is hereby given, that the QUARTERLY GENERAL MEETING of adventurers in the above mines will be HELD at their office, Graham House, Old Broad-street, on Wednesday, the 18th September, at Two o'clock precisely. R. T. ALISON, Sec.

Graham House, Old Broad-street, London, E.C., Sept. 5, 1857.

**GREAT CRINNIS COPPER MINING COMPANY.**—Notice is hereby given, that, by order of the Committee of Management, a CALL of ONE SHILLING per share, on the NEW SHARES of this company, is now made, payable at the office, 27, Austinfriars, on Wednesday, the 23d inst.

London, Sept. 2, 1857.  
By order,  
WILLIAM CHARLES, Sec.

**TAMAR SILVER-LEAD MINING COMPANY.**—Notice is hereby given, that the ANNUAL GENERAL MEETING of the shareholders in this company will be HELD at their offices, 17, Gresham-street East, London, on Monday, the 3rd day of October next, at Two o'clock p.m. precisely.

By order of the Board,  
F. GEORGE, Sec.

Dated this 1st day of September, 1857.

**SILVER-LEAD MINES AND SMELTING WORKS OF PONTGIBAUD.**—The ORDINARY ANNUAL GENERAL MEETING of the shareholders of the above company will TAKE PLACE in Paris, at the office of the company, 18, Rue Bergère, on Friday, the 25th inst., at Twelve o'clock.

The qualification to take part in this meeting is the holding of 20 shares, which must be deposited at the office of the company in Paris, or at the agency in London, ten days before the meeting takes place.

Shareholders may be represented by proxy at the meeting; but no one can be the bearer of a proxy unless he himself is the holder of 20 shares.

Proxies must be upon French stamped paper, and upon forms which are to be obtained at either of the offices of the company.

Proprietors of shares desiring to avail themselves of the provisions of the French law of 23d June last, which gives them the power of having their present shares converted into shares bearing the names of the proprietor, may do so without charge, on condition that such shares are deposited at either of the offices of the company before the 1st October next. A provisional receipt will be given for the same.

JOHN TAYLOR AND SONS,

London Agency, 5, Queen-street-place, Sept. 7, 1857.

**IMPERIAL BRAZILIAN MINING ASSOCIATION.**—Notice is hereby given, that the ADJOURNED SECOND GENERAL MEETING of the proprietors of the above association will be HELD at the office of the association, Winchester House, Old Broad-street, London, on Thursday, the 17th day of September next, at Half-past One o'clock in the afternoon precisely, for the purpose of considering the propriety of an absolute and entire dissolution of the said association, in pursuance of the Deed of Settlement of the said association in this behalf, and of coming to such resolution thereon as the meeting shall think proper.

And notice is hereby given, that, at the first meeting for this purpose, held on the 9th day of April last, a dissolution was resolved on, and a committee for taking measures to effect such dissolution was appointed, and copies of the resolutions were advertised in the London Gazette of the 17th day of April last.

By order of the Court of Directors,  
J. G. DAVY.

**BRITISH AUSTRALIAN GOLD MINING COMPANY.**—The Committee of Management beg to inform the shareholders that they have just RECEIVED ADVICES from MELBOURNE, under dates 19th May and 12th June, 1857, of the most unfavourable nature. The co-operative association referred to in the last advice, and which at one time fair a promise, has been broken up, in consequence of the yield of gold being insufficient to meet expenses.

The Melbourne Commissioners had received a fresh proposition for the employment of the company's machinery, but the exhaustion of the funds sent out for the prosecution of the enterprise under the management of Mr. G. M. Stephen would most probably paralyse all further progress. The correspondence is open to the inspection of the shareholders at this office.

HENRY F. WARD, Sec.

1, King's Arms-yard, Moorgate-street, E.C., Sept. 7, 1857.

**THE GREAT BARRIER LAND, HARBOUR, AND MINING COMPANY (LIMITED).**—In 10,000 shares, of £5 each.

Deposit, 10s. per share at the time of application, and 20s. per share upon allotment.

Prospectuses can be obtained at the office, No. 117, Bishopsgate-street Within.

J. H. MURCHISON, Sec.

**GEELONG AND BALLARAT RAILWAY COMPANY (LIMITED).**—Notice is hereby given, that a SPECIAL GENERAL MEETING of the shareholders of this company will be HELD at the offices, 16, Bishopsgate-street Within, on Friday, the 25th inst., at One o'clock p.m., to confirm the following resolution, passed at the meeting held on the 24th of August last:—That the company be wound up.

By order,  
HENRY GRAVES, Sec.

THE RED SEA TELEGRAPH COMPANY (LIMITED). FIRST SECTION—ALEXANDRIA TO ADEN.

Capital £300,000, in 60,000 shares of £5 per share; £1 to be paid on application.

£20,000 per annum to be guaranteed by the Hon. the East India Company and Her Majesty's Government, from date of receipt of the first message.

OFFICES.—No. 8, MOORGATE STREET.

DIRECTOR.

JOHN C. MARSHALL, Esq., late of Calcutta.—CHAIRMAN.

SIR R. MACDONALD STEPHENSON—DEPUTY-CHAIRMAN.

JAMES ALLAN, Esq., Managing Director of the Peninsular and Oriental Steam Navigation Company.

J. A. ARBUTHNOT, Esq. (Messrs. Arbuthnot, Latham, and Co.)

SIR S. GEORGE BONHAM, Bart., K.C.B.

JOHN BOWMAN, Esq. (Messrs. Forbes, Forbes, and Co.)

R. W. CRAWFORD, Esq., M.P., Chairman of the East Indian Railway Company (Messrs. Crawford, Colvin, and Co., London).

FREDERICK G. DALGETY, Esq. (Messrs. Dalgety and Co., London and Australia.)

THOMAS DENT, Esq. (Messrs. Palmer, Mackillop, Dent, and Co., London).

WILLIAM DENT, Esq., late Director of the Hon. the East India Company.

GEORGE DEWHRUST, Esq., Manchester.

W. GLADSTONE, Esq. (Messrs. Thomas, Bonar, and Co., London).

A. STEUART GLADSTONE, Esq. (Messrs. Ogilvy, Gilanders, and Co., Liverpool).

SAMUEL GREGSON, Esq., M.P. (Messrs. Gregson and Co., London).

Capt. HALL, R.N., C.B., F.R.S., Director of the Peninsular and Oriental Steam Navigation Company.

CHRISTOPHER RAWSON, Esq. (Messrs. Rawson, Sons, and Co., London).

ERIC CARRINGTON SMITH, Esq. (Messrs. Smith, Payne, and Smiths, Lombard-street, London).

ALEXANDER WILSON, Esq., F.R.S., late of Madras Civil Service.

(With power to add to their number.)

BANKERS—Messrs. Glyn, Mills, and Co.; and Messrs. Smith, Payne, and Smiths.

SOLICITORS—Messrs. C. H. and W. Freshfield and Newman.

BOOKERS—Messrs. Scott, Corthorn, and Scotts.

SECRETARY—Charles Lennox Peet, Esq.

The urgency of the undertaking is universally admitted. The remunerative results are placed beyond all doubt. Perfect immunity from all risk is secured by the Limited Liability Act, and by the guarantees of the Government, the East India Company, and the contractors. As a great and important national question, it is only necessary to urge upon all who feel any interest in securing immediate telegraphic communication with India, to give their earnest and cordial support to an enterprise which is brought before the public with this sole object.

Application for shares may be sent to the brokers, Messrs. Scott, Corthorn, and Scotts, 16, Throgmorton-street; or to the company's offices, 8, Moorgate-street; but no application will be considered unless a deposit of £1 on each share applied for is previously made to the bankers of the company. The deposit will be returned if the application is not acceded to.

**THE BEST HYDRAULIC CEMENTS,**  
PORTLAND, ROMAN, AND BATH;  
MADE FROM THE NATURAL CEMENT STONE BY

ALEXANDER THOMPSON.

(Late Fullwood, Thompson, and Son.)

"THE BRIDGWATER CEMENT WORKS," SOMERSET.

Can be relied upon for INVARIABLE REGULARITY of strength and colour.

**GLENFIELD PATENT STARCH,**  
USED IN THE ROYAL LAUNDRY.  
AND PRONOUNCED BY HER MAJESTY'S LAUNDRY TO BE  
THE FINEST STARCH SHE EVER USED.

Sold by all chandlers, grocers, &c.

**SPARE ENGINE AND MATERIALS FOR SALE.**

M. R. LITTLE WILL SELL, BY PUBLIC AUCTION, on Thursday, the 17th inst., at Two o'clock precisely, at WHEAL CUPID, near Redruth, the following MATERIALS:—viz., One 30 in. cylinder PUMPING ENGINE, 8 ft. stroke, equal beam, with one boiler about 8 tons.

2 balance-boats.  
1 8-in. capstan.  
1 4-in. capstan.  
1 42 ft. shears.  
1 48 ft. shears.  
18 ft. 8 in. pumps.  
2 6 ft. 7 in. doorpieces and doors.  
1 10 ft. 6 in. working-barrel.  
1 6 ft. 6 in. doorpieces and door.  
1 10 ft. 6 in. windorse.  
10 pairs 5½ in. strapping-plates.  
3 pairs 5 in. strapping-plates.  
2 pairs 4½ in. strapping-plates.

The engine is a first-rate one, having been made at Perran Foundry in 1851, to send to the Exhibition in Hyde-park, as a specimen of a Cornish pumping engine. All the other materials are in good condition, and well worthy the attention of mine agents and others.

Particulars may be known by applying to the agent, on the mine; or at the offices of the auctioneer, Redruth. Dated Sept. 9, 1857.

94

IN CHANCERY.—In the Matter of the JOINT-STOCK COMPANIES ACTS, 1848 and 1849, and the NANTLLE VALE SLATE COMPANY.

M. R. WILLIAM DEW WILL SELL, BY AUCTION, at the Sportsman Hotel, Carnarvon, on Wednesday, the 30th day of September, 1857, at One o'clock in the afternoon, in One Lot, by direction of the Master of the Rolls, Judge to whose Court this Matter is attached, the TY-MAWR SLATE AND SLAB QUARRIES, situate in the parish of Llanllyfnin, near Carnarvon, held under a lease for 21 years, from the 1st of October, 1852, determinable at the option of the lessee, at the end of the first seven or fourteen years, subject to a royalty of 2s. 6d. per ton, with a proviso, that the same shall not be less than £100 per ton. Also, the USE of a TRAMWAY in and over certain fields, known as Cae Llyn Teyrn, and Cae Carroll, in the said parish of Llanllyfnin, for a term of 21 years, from the 15th of May, 1854; and also, the RIGHT TO USE THE SHORES OR BANKS OF THE NANTLLE VALE LAKE, for the deposit of refuse of the quarries, subject to the yearly rent of £50; together with the PLANT and MACHINERY in and upon the said quarries.

Particulars, with conditions of sale, may be obtained at the place of sale; or of Messrs. Harrison, solicitors, 5, Walbrook, London; at the British Hotel, Bangor; the Commercial Inn, Portmadoc; Pengwern Arms, Prestatyn; and the Sportsman Hotel, Carnarvon.

95

PENZANCE, CORNWALL.

IMPORTANT AND EXTENSIVE MANUFACTURING PREMISES, Held at a ground rent; bounded by the sea wall; in the occupation of the London and Penzance Serpentine Company; also, THE VALUABLE PLANT AND MACHINERY, THE STOCK IN TRADE, AND THE LEASES OF SIX QUARRIES.

M. R. BOYES has been instructed by the Official Liquidator (appointed by the Court of Chancery to wind-up the above company) to SELL, BY AUCTION, at Garraway's Coffee House, London, on Wednesday, 30th September, at Twelve o'clock, the above valuable PROPERTY.

The PREMISES are extensive, and have been built with stone during the last four years in the most complete and substantial manner, at a cost of several thousand pounds. They contain a noble show room, factory, masons' and turners' shops, potting, engine, and store-rooms, smithy, boiler-houses, large shed, yard, &c. Also, a desirable PLOT of BUILDING LAND, having a frontage of about 200 ft.

The MACHINERY is of the best description, and in excellent working condition, and will be sold with the lease. It consists of two high-pressure steam-engines, eleven turning lathes, extensive sawing frames, &c.

The purchaser of the lease and plant will have the option of taking the stock of serpentines stone and Silician marble, consisting chiefly of chimney-pieces, at Penzance and London, or either, at a fair valuation. To any party desirous of embarking in this business, a valuable opportunity is hereby offered; but the premises, from their extent and eligible situation, and from their possessing every modern improvement, offer unusual advantages for many other manufacturing purposes.

A plan and elevation may be seen at the auctioneer's office. The premises, plant, and stock may be viewed on application to Mr. Beeson, on the premises. Particulars may be had there; or of Messrs. Clutton and Ade, solicitors, 48, High-street, Southwark; or of H. Crossdale, Esq., official Liquidator, 68, Basinghall-street; both in London; at the principal hotels at Plymouth and Truro; at Garraway's; and at the auctioneer's office, 33, Abchurch-lane, London.

96

IMPORTANT AND EXTENSIVE SALE OF HORSES, &c., AT THE STABLES, BLOXWICH BRIDGE, NEAR WALSHALL.

TO RAILWAY CONTRACTORS, HORSE DEALERS, COAL AND IRONMASTERs, AND OTHERS.

M. R. HARRINGTON respectfully announces that he has received instructions from Mr. Pigott (who has finished his contract on the Cannock and Norton branches of the South Staffordshire Railway) to OFFER, BY PUBLIC AUCTION, at the railway station, Bloxwich-bridge, within one mile of Walshall, on Tuesday, October 6th, 1857, FIFTY SUPERIOR YOUNG AND WELL-SEASONED POWERFUL DRAUGHT HORSES, with their gear; capital GREY HARNESS MARE, five years old, 15½ hands, very steady in harness; capital COB RIDING HORSE, 14 hands.

Sale to commence at Eleven for Twelve o'clock, under the usual conditions.

The auctioneer begs to call the attention of dealers and others to this important and genuine sale, as the horses are mostly young, and in excellent working condition, and will be sold by the proprietor without reserve, he having no further use for them.

Also will be OFFERED, at a FUTURE SALE, about 300 tons of WROUGHT-IRON RAILS (40 lbs. to the yard), 300 EARTH WAGONS, CARTS, BARROWS, PLANKS, STABLES, SHEDS, &c., due notice of which sale will be given in a future advertisement.

The stables are situate near the Mill, one mile from Walshall, on the Bloxwich-road; and suitable accommodation will be provided for any gentleman driving or riding to the sale.—Auctioneer's office, Bridge-street, Walshall.

For terms, apply as above.

97

**SOUTH WALES.**—Mr. ARTHUR O. DAVIES, of Dowlais, is authorised to TREAT for the SALE of TWO VERY VALUABLE GOING COLLIERIES in South Wales.

Also, TO LET, an EXTENSIVE TRACT OF STEAM COAL, on a long lease, at a moderate royalty, with a railway running through the property.

**PREVENT SMOKE AND INCREASE STEAM.—** PATENT REGULATING AIR-DOOR, for MARINE and STATIONARY STEAM-BOILERS, and for LOCOMOTIVE and OTHER FURNACES.

CERTIFICATE FROM SIR ANTHONY ROTHSCHILD.  
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Signed, A. ROTHSCHILD.

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125

**PATENT WIRES, ONE-HALF THE COST OF HEMP ROPES.**—HENRY J. MORTON and Co.'s (No. 2, Basinghall-buildings, LEEDS) PATENT WIRE ROPE, for the use of MINES, COLLIERIES, RAILWAYS, &c.; one-half the weight of hemp rope, and one-third the cost; one-third the weight of chain, and one-half the cost—in all deep mines these advantages are self-evident. Reference to most of the principal colliery owners in the kingdom.

GALVANISED SIGNAL CORDS AND KNOCKER LINES; will not rust or corrode, and not affected by the copper water in mines. Very strong, and not at all liable to break. Prices from £1 per 100 yards.

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MACHINES of all sizes, from 1 cwt. to 30 tons, for RAILWAY WAGONS, CARTS, or WAGONS.—For prices and all other information, apply to HENRY J. MORTON and Co., Galvanised Ironworks, 2, Basinghall-buildings, Leeds.

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128

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130

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Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.	Shares.	Paid.	Last Price.	Present.	Shares.	Paid.	Last Price.	Present.	
5120 Alfred Consols (cop.), Phillack [S.E.] ... 21. 1s. 10d.	£15	13½ 14⅓	12 13 14	£17 13 0	£20 8 0	Aug. 3, 1857.	6144 East Caradon (copper) ...	2½	1½	2½ 3	4096 Rosewarne Consols ...	£1 0	1½	1½
1624 Balleswidden (tin), St. Just ... 11½	4	6½ 6½	12 5 0	0 5 0	0	Jan. 1, 1854.	6000 East Cornwall Cons. (tin & cop.) ...	1½	—	—	5000 Round Hill (silver-lead), Salop ...	1½	—	—
4000 Bedford United (copper), Tavistock ... 21. 6s. 8d.	8	6½ 6½	9 11 6	0 6 0	0	Aug. 27, 1857.	5200 East Fowey Consols ...	—	—	—	6000 Severn (lead, copper) ...	1½	—	—
240 Bossean (tin), St. Just ... 20½	100	105	21 0 0	3 0 0	0	Sept. 4, 1857.	5300 East Frongesch ...	16. 6d.	—	—	5250 Silver Brook, Ashburton ...	£3 12	1	1½
700 Botallack (tin, copper), St. Just* ... 31½	275	260 270	410 5 0	5 0 0	0	Aug. 16, 1857.	4098 East Gonamens (copper) ...	1½ 3d.	—	—	1024 Silver Valley, Truro ...	£3 4 10½	2½	2½
1200 Brightside and Frowgat Grove, Derbyshire. 3	4	4½ 4½	3 0 0	3 0 0	0	Apr. 30, 1856.	5000 East Hender (copper), Crownan ...	—	—	—	4000 S.ithney Wheal Buller (tin) ...	4	—	—
100 Bryndaf Hall (lead), Flint ... 20	80	70 80	13 0 0	5 0 0	0	July 31, 1856.	5000 East Providence (tin), Uley L. ...	10	—	—	4000 S.ithney Wheal Buller (tin) ...	4	—	—
1000 Bryntail, Llandilo, Montgomeryshire ... 7½	2	1 1½	0 5 0	0 5 0	0	July 1, 1856.	5000 East Wheal Robert (copper) ...	—	—	—	4000 South Bullerand W. Penestruthal ...	3½	—	—
420 Budnick Consols (tin), Perran ... 2½	6	6	0 10 0	0 10 0	0	Mar. 26, 1857.	5000 E. Rosewarne (cop.), Gwinear ...	£1 8	—	—	6000 South Care Bres (cop.) [S.K.] ...	£2 4	5½	6
6000 Bwlch (silver-lead), Cardiganshire ... 31. 1s. 6d.	1	1	0 2 6	0 2 6	0	July 30, 1856.	12000 East Rosewarne (tin), Crownan ...	—	—	—	6000 South Clifford United, Gwynnap ...	—	—	—
1000 Carn Bras (copper, tin), Illogan ... 15	60	40 45	235 10 0	2 0 0	0	May 22, 1857.	6144 S. Condurrow (in, cop.), Camb. 1s. 6d.	—	—	—	6144 S. Condurrow (in, cop.), Camb. 1s. 6d.	—	—	—
2048 Carnorth (tin), St. Just ... 4½	5	5½	0 15 0	0 3 0	0	June 6, 1856.	256 East Tolgus (copper), Redruth ...	17	55	50 55	3502 South Crewever (copper) ...	1½	—	—
200 Cefn Cwm (tin), Bala (lead), Cardiganshire ... 33	55	—	3 0 0	3 0 0	0	Oct. 4, 1855.	1000 East Trefusis (copper) ...	£3 17 10	0	—	5000 South Cudda ...	11½	—	—
2000 Collacombe (copper) ... 5	25	25	2 10 0	0 10 0	0	July 30, 1857.	119 East Wheel Agar ...	67	—	—	256 South Cudda ...	25	—	—
225 Conduroon (copper, tin), Camborne [S.E.] ... 20	110	160 110	85 0 0	0 0 0	0	June 10, 1857.	10000 East Wheal Robert (copper) ...	—	—	—	2000 South Gorland, ...	5	—	—
30000 Craven Moor, Limited (lead), Yorkshire ... ½	—	—	0 9 0	0 9 0	0	Feb. 28, 1856.	4000 East Wheal Russell, Tavistock ...	£2 9	—	—	South Herland and Reillian ...	1	—	—
123 Cwmystwyth (lead), Cardiganshire ... 60	140	150	95 0	3 0 0	0	Aug. 20, 1857.	5000 Fee Donald (lead) ...	16. 6d.	—	—	6000 South Huntington (tin), Calstock ...	2½	—	—
280 Derwent Mines (silver-lead), Durham ... 300	150	150	122 0	10 0	0	June 25, 1857.	512 Forest (copper), Illogan ...	—	—	—	6000 South Lady Bertha (copper) ...	—	—	—
1024 Devon Great Consols (cop.), Tavistock [S.E.] ... 1	450	450 460	575 0	10 0	0	July 24, 1857.	5000 Fox Tor Alvernum (t.c.e.), Limit ...	5	—	—	6000 South Providence (tin), S.ithney ...	£3 7	7	—
672 Ding Dong (tin), Guivat* ... 32	25	25	20 23½	16 7 6	1 10 0	Mar. 2, 1857.	5000 Frank Mills, Devon ...	£3 6 6	—	—	1024 So. Wh. Crofty (cop.), Illogan ...	£1 18 10	8	7 8
179 Dolcoath (copper, tin), Camborne* ... 310	310	360 320	935 0	8 0 0	0	Aug. 10, 1857.	5000 Gallt-y-Ffrith-Rhyd (Limited) ...	3	—	—	1024 So. Wh. Ellen (cop.), St. Agnes ...	£2 15 9	6	5 6
13800 Drake Walls (tin, copper), Calstock ... 17. 19½	2%	2½	0 13 6	0 2 0	0	Sept. 11, 1857.	5000 Garret (lead), Flint ...	£3 13 0	—	—	1024 So. Wh. Seton (cop.), Camborne ...	5½	10	—
300 East Daren (lead), Cardiganshire ... 32	100	100	30 0	3 0 0	0	Aug. 27, 1857.	4000 Gawton (copper), Tavistock ...	3½	—	—	6000 South Wheal Wrey ...	—	—	—
2048 East Palsom (lead) ... 3	2½	3	2½ 3	2½ 3	0	July 13, 1857.	5000 Geilberion (sil.-ld.), Cardigan ...	1	—	—	6000 South Wheal Bertha (copper) ...	—	—	—
123 East Pool (tin, copper), Pool, Illogan* ... 24½	340	—	290 0	2 10 0	0	Aug. 31, 1857.	1024 Gilmar (tin), St. Erth ...	16. 6d.	—	—	6000 South Wheal Bertha (copper) ...	—	—	—
1024 East Wheal Margaret (tin, copper) ... 6½	10	10	10 11	0 5 0	0	Sept. 5, 1857.	1024 Gilmar (tin), St. Erth ...	16. 6d.	—	—	6000 South Providence (tin), S.ithney ...	£1 18 10	8	7 8
3709 Exmouth (silver-lead) ... 45	14	8	3 1 0	0 3 0	0	Aug. 24, 1857.	1024 Great Cadran (copper) ...	—	—	—	1024 Great Cadran (copper) ...	—	—	—
1400 Evans Mining Company (lead), Derbyshire ... 5	80	59 61	14 13 4	1 0 0	0	Aug. 6, 1857.	1024 Great Caradon (copper) ...	—	—	—	1024 Great Cadran (copper) ...	—	—	—
490 Fowey Consols (copper), Tywardreath ... 4	7	7	41 4 3	0 6 0	0	Feb. 17, 1857.	1024 Great Caradon (copper) ...	—	—	—	1024 Great Cadran (copper) ...	—	—	—
4449 General Mining Co. for Ireland (cop., lead) ... 3½	2½	2½	1 0 8	0 8 0	0	June 5, 1853.	1024 Great Wheal Alfred [S.E.] ...	£1 2 5	7½	7 7½	1024 Great Wheal Alfred [S.E.] ...	£1 18 7	2½	2½
2000 Goginan (silver-lead), Cardiganshire ... 7½	—	—	22 0 0	0 3 0	0	Sept. 5, 1850.	1024 Great Wheal Baddern (tin) ...	£3 10 0	0	—	1024 Great Wheal Baddern (tin) ...	—	—	—
1024 Gonamena (copper), St. Cleer ... 13½	15	10 12	0 7 6	0 7 6	0	Dec. 21, 1852.	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7
243 Grambler and St. Aubyn (copper) ... 10½	90	80 90	4 0 0	2 0 0	0	July 7, 1857.	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7
6000 Great South Tolgas [S.E.] ... 2½	16½	16½ 17	0 16 5	0 16 5	0	Aug. 20, 1857.	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7
26666 Great Wheal Vor (tin, cop.), Helston [S.E.] ... 7	3½	2½ 2½	0 5 0	0 5 0	0	June 20, 1855.	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7
119 Great Worth (tin), Germoe ... 100	140	—	231 10 0	7 10 0	0	Feb. 27, 1857.	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7
1024 Herdshot (lead), near Liskeard ... 8½	8½	8½ 8½	2 12 6	0 7 0	0	April 18, 1854.	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7
6000 Hindston Down Consols (copper), Calstock ... 3½	3½	3½ 4	2 15 0	0 2 0	0	Nov. 25, 1856.	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7
2000 Holyford (copper), near Tipperary ... 11	—	—	4 2 6	0 2 0	0	Jan. 28, 1857.	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7
2300 Isle of Man (Limited)* ... 25	42	—	—	—	0	Sept. 3, 1857.	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7
76 Jamaine (lead), Mold, Flintshire ... 31. 1s. 6d.	—	—	330 0	3 0 0	0	Mar. 10, 1851.	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7
2000 Laxey Mining Company, Isle of Man ... 100	1000	—	1420 0	0 50 0	0	June 30, 1857.	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7
160 Levant (copper, tin), St. Just ... 2½	85	85 90	1062 0	0 4 0	0	May 12, 1857.	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7
5000 Lewes Mines (tin, copper), St. Erth ... 31. 1s. 10d.	3½	3½ 3½	0 10 0	0 10 0	0	Dec. 10, 1855.	1024 Great Wheal Fortune, Breaed [S.E.] ...	17	7	7	1024 Great Wheal Fortune, Breaed [S.E.] ...			